

THE RAILWAY GAZETTE

A Journal of Management, Engineering and Operation
INCORPORATING

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The Railway Times • Herapath's • RAILWAY RECORD.

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DIESEL RAILWAY TRACTION SUPPLEMENT

The November issue of THE RAILWAY GAZETTE Supplement, illustrating and describing developments in Diesel Railway Traction, will be ready on November 1, price 1s.

GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as indicating that they are available for export

NOTICE TO SUBSCRIBERS

Consequent on the paper rationing, new subscribers cannot be accepted until further notice. Any applications will be put on a waiting list and will be dealt with in rotation in replacement of subscribers who do not renew their subscriptions

POSTING "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and facilities for such dispatch.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas

TO CALLERS AND TELEPHONERS

Until further notice our office hours are:
Mondays to Fridays 9.30 a.m. till 5.30 p.m.
The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

Post-War Transport

THE importance of reaching a decision soon as to the post-war transport organisation of this country is not confined to the various branches of transport. The reaction of the present uncertainty is far wider. Under the existing agreement between the Government and the railways for the control of the latter, reversion of control to the companies is due to take place some time after the expiry of the year from the end of the war. Even the minimum period is indefinite and depends on interpretations of what constitutes the end of the war. There is not even a hint as to the maximum period. In the meantime all kinds of rumours are rife from time to time. Various it is suggested that the four main-line railways may be unified; that the railways either alone or in conjunction with other forms of inland transport may pass under State control or some form of semi-public control. The best and simplest course, namely, the return of control of the four main-line railway companies to the proprietors is less often referred to. But when any of these is likely to occur is quite unknown.

Repercussions on Trade

The effect of lack of declared policy by the Government in this matter is likely to be more easily discernible after the war. So long as their future is uncertain, it is unlikely that the railway companies will embark on necessary schemes of improvement and rehabilitation. The State, equally, is unlikely to authorise works involving heavy capital expenditure, if control is to pass from it before it can reap the benefits. The travelling and trading public will be the losers, insofar as necessary schemes are deferred, but more serious are the effects on the export trade of Great Britain. Many companies associated with the provision of railway supplies, which during the war have greatly expanded their production facilities, will have to decide shortly on the productive capacity they are to retain in peacetime. They are faced with the unknown factor of British railway requirements, in making their plans, both for the transition period after the war and for a longer term. The longer the uncertainty as to the future organisation of transport, the longer will be deferred the launching of major schemes of capital works. There can be no doubt that the contribution which these works could make in the spreading of overheads could be of the greatest assistance to the British export trade at a time when it will be sorely needed.

Customs Privileges for Argentine Railways

Even before the Customs Law of 1876, the Argentine railways had been granted certain customs privileges, including the authority given to the Executive in Article 54 of the law relating to the national railways, issued on September 16, 1872, to specify the products that might be imported free of duty by the railway companies. On December 6, 1876, a commission was appointed to draw up a list of the materials which should be exempted from import duty when imported by the railways, and this list was given official sanction by a Decree of June 25, 1877. The list included iron and steel rails and track accessories; iron and steel for locomotives, carriages, wagons, other rolling stock, buildings, and works of art; telegraph equipment; and some 210 additional specified items ranging from acids of various kinds to zinc. The principle of duty-free entry of equipment for railways was perpetuated in the Mitre Railway Concessions Law of October 1, 1907, and at the present time the duty-free list of railway material, which has now grown to some 470 specified items, remains a feature of the Argentine tariff policy. Before the end of 1946, the British-owned railways in Argentina will be faced with the loss of important concessions under the Mitre Law, and the new legislation which will be provided to replace this is awaited with keen interest.

Memories of Antwerp

Thirty years ago London busmen were called upon to aid in the evacuation of British troops trapped at Antwerp. The London General Omnibus Company received an S.O.S. from Mr. Churchill, then First Lord of the Admiralty, for 300 fully-equipped buses to be ready in 14 hours. At the appointed hour, 330 volunteer bus drivers, most of whom had come straight off duty, were assembled in London at the Embankment, together with a detachment of the Naval Brigade—including Mr. Churchill—awaiting the signal to go. They proceeded by special train from Victoria to Dover, whence their buses had been driven from London by some of their colleagues. The party crossed to Dunkirk in the tramp steamer *Elswick Grange*, and immediately set off on its mission to Antwerp. They took with them in their buses men from the Naval Brigade who were to hold off the enemy's attack during the evacuation. This was accomplished successfully and only 24 buses were left behind. The bus drivers drove their vehicles fully loaded with troops, women, and

children, across a pontoon bridge which "rolled like a switch-back" and gave only 2 in. clearance on each side. The Distinguished Service Medal was presented to their leader, Mr. A. Chouffet, now one of the Central Bus Divisional Superintendents of London Transport.

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Overseas Railway Traffics

Only a very limited interest has been taken in the stocks of the British-owned Argentine railways, and indeed of South American railways generally, in the past few days. Prices, however, have steadied slightly, and the latest traffic return of the Leopoldina Railway caused a rise in its ordinary shares, and San Paulo ordinary improved on investment merits and firm holding. Traffics of Argentine railways in the 14th and 15th weeks have been generally good, but the increases shown in the 15th week have been mostly lower than those of the previous week. This may be due in part to the fact that in the 15th week of the current year there were two holidays, as against one only in the corresponding week of 1943. Traffic increases in the 14th and 15th weeks have amounted to £50,151 on the Central Argentine, to £30,420 on the Buenos Ayres & Pacific, to £21,780 on the Buenos Ayres Western, and to £15,900 on the Buenos Ayres Great Southern.

	No. of week	Weekly traffics	Inc. or dec.	Aggregate traffic	Inc. or dec.
Buenos Ayres & Pacific*...	15th	121,800	+ 15,300	1,718,160	+ 349,860
Buenos Ayres Great Southern*	15th	168,000	+ 2,340	2,456,700	+ 198,000
Buenos Ayres Western*...	15th	62,940	+ 3,300	946,860	+ 178,260
Central Argentine*	15th	160,071	+ 15,801	2,585,868	+ 539,295
Canadian Pacific ...	41st	1,227,800	+ 57,800	50,017,400	+ 4,413,400

* Pesos converted at 16½ to £.

Traffics on the United of Havana have been having their ups and downs, but for some time past Central Uruguay receipts have been on the down grade, as also have been those of the Antofagasta although on a rather smaller scale.

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Gauges in Sweden

Our contemporary, *Nordisk Järnbantidskrift*, in an interesting article by Herr A. Sjöberg, gives the story of the gauge question in Sweden. The first State-operated sections were opened in 1856 between Gothenburg and Jönsered, and Malmö and Lund and were constructed on the 4 ft. 8½ in. gauge (5 Swedish feet), as were some privately-owned lines, which began working a few months earlier. Very soon the view was advanced that the traffic to be expected in Sweden did not justify an expensive type of construction and advocating the adoption of a narrow gauge, as offering considerable economies. The Swedish Parliament considered the problem on several occasions, in 1859-60, 1862-63, 1870, and 1873, and experts were called in to report. They took varying views, as might be expected, but although on more than one occasion it seemed as if the advocates of a narrow gauge would prevail, this did not occur, with the result that all routes built by the State had the standard European gauge. If all lines, including those not open to general public traffic are considered, the position at the end of 1942, for privately-owned lines, was as follows:—4 ft. 8½ in. gauge, 2,259 miles; 3 ft. 7 in. gauge, 36 miles; 3 ft. 6 in. gauge, 173 miles; 2 ft. 11 in. gauge, 1,452 miles; 2 ft. 7½ in. gauge, 33 miles; 1 ft. 11½ in. gauge, 15 miles. Until 1880, when they were taken over and converted by the State, the 3 ft. 11½ in.—practically 4 ft.—gauge was in use on two routes. All lines taken over by the State down to 1933 were converted to normal.

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Rolling Stock Weight Trends

Some striking sidelights on the trends in American passenger coach design were given in a recent paper to the American Society of Mechanical Engineers, Railroad Division, by Mr. Stephen H. Badgett. In 1906 the average weight of a coach was just under 50 tons; it was 74½ ft. long and provided seating for 73 passengers. By the late 1920s, the length had increased to 79 ft., the weight to over 58 tons, and the seating to 84 places. From then onwards came the concerted effort to reduce rolling stock weight by the use of stronger and lighter materials, but any success in this direction was more than nullified by the luxury demand, which called for greatly increased space per passenger, together with heavier equipment, such as that needed for air-conditioning. Thus the modern *de luxe* streamline coach, though 85 ft. long and reduced in weight to 54 tons, may seat no more than 56 passengers. In the construction of the coach, it is the body which has seen the greatest weight changes. Per foot of length, the 1906 body weighed 985 lb., that of the late 1920s 1,225 lb., and that of the modern coach 965 lb.; but the same coach bodies stripped of their speciality fittings weighed 840,

715, and no more than 395 lb. per ft. respectively. The speciality fittings referred to include electro-pneumatic controls for the air-brakes, larger capacity batteries and 20-kw. generators for modern lighting and air-conditioning, improved seating, and the skirting and full end closures that form part of the streamlining. With the addition of various cushioning devices for smoother riding, roller bearings, and other improvements, bogies have steadily increased in weight; in the three types of car mentioned, the weight of a pair of bogies has grown from 16½ tons in 1906 to 17½ tons today. The urgent need, in the speaker's view, is for some curtailment of the excessive space allotted to each passenger in the modern vehicle.

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The Railway Control Agreement

In our June 9 issue we dealt with a pamphlet entitled "The Scandal of the British Railways," issued by Mr. K. Scott Adie, of the London & North Eastern Railway Stockholders' Association, in which he dealt at length with the steps leading up to the railway agreement, and vigorously attacked the equity of that arrangement. Mr. Scott Adie has now published a sequel entitled "Fair and Just,"* in which he again emphasises the stockholder's case for the revision of the agreement between the railways and the Government. The object of the new publication is to give some details as to the events of the last six months and to reply to some of the more important questions which have been asked. Mr. Scott Adie contends that the second agreement was made under duress, and in the pamphlet he deals at length with his reasons for this contention. It is stated that the Chairman of the L.N.E.R. satisfied himself that if the proposals on which the agreement is based were not accepted, legislation would be introduced which would effect Government control on an even less favourable basis and he had no doubt that, in the circumstances then prevailing, such legislation would have been passed.

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Reduced Fares for Children

On April 1 of this year, the management of the Swiss Federal Railways raised from 4 to 6 years the limit of age at which children may be carried free in the trains, and the half-fare limit was increased from 12 to 16 years. It was in 1873 that free travel up to the age of 3 was first officially recognised in Switzerland, and in 1901 the limit was extended to 4 years; from the earliest days of Swiss railways, children up to 10 years of age were carried at half-price. From March 1, 1909, the half-fare limit was raised to 12 years, and this has remained in force for 35 years until the recent alteration. It is of interest to compare these limits of age with those in force in other European countries. The international tariff arrangements fix the maximum age for free travel at 4 years, and for half-rate travel at 10 years, but there are various exceptions to these limits in the internal fare arrangements of various countries. Great Britain, Spain, and Turkey confine the free travel age to a maximum of 3, whereas Russia and Bulgaria raise it to 5 years. In Spain and Turkey half-rate tickets are conceded up to 7 years only, whereas in Sweden they apply up to 12 years, in Great Britain to 14, and in Norway to 16, in the third class; the 10 years limit, however, is maintained in the Norwegian second class. Moreover, Norway and Russia are unique in that their fare reduction for children amounts to 66 and 75 per cent. respectively, though in Norway this applies to third class only, and the usual 50 per cent. reduction only is conceded in second class. The new Swiss concessions are made with a train service fully the equal, in frequency and speed, of that operating in peacetime.

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Signalling on the Russian Railways

Not much has been published outside Russia about the signalling of its railways. There is a text book by Professor Roginski, which we regret being unable to read; the illustrations prove Russian engineers to be fully acquainted with the best modern practice. There was also once a signalling periodical issued in Russian. Edward Tyer's block instruments were introduced into Russia in 1868 on the St. Petersburg-Baltic line, and other foreign systems found application in due course. The French electro-semaphore block was used on the St. Petersburg-Moscow and Warsaw routes, on single and double track, and the Hodgson block was also employed on them. Sykes's block was adopted by the Russian South Western Railway, and also on single and double lines. The route to Brest-Litovsk was fitted partly with the German Siemens block and partly with the Rodary system, an arrangement developed by the P.L.M. in France from the Tyer block, which had come into use in 1865. The Webb and Thompson electric train-staff was introduced in 1897 on the Moscow-Kazan line and in due course spread over a considerable

* Obtainable, price 6d., from the Secretary of the London & North Eastern Railway Stockholders' Association Limited, 108a, Cannon Street, London, E.C.4

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mileage. Russia was indeed the one Continental country to adopt telegraph working extensively. In later years variations of the original apparatus were produced by the Russian inventors Tegera and Vereshinina, and appear to have found some favour. In mechanical signalling English ideas were at first followed, as was natural, but later on German methods gained a footing and one or two German firms carried out a good many installations, hardly to be distinguished from those seen in their own country. The hydraulic and electro-pneumatic power-signalling systems were early adopted and then the all-electric; mostly, we think, in a German form. American equipment was said to have met with a certain amount of favour after the last war.

Wireless not a Substitute for Signalling

We are glad to see our American contemporary, the *Railway Age*, pointing out the absurdity of some of the assertions now being made in America regarding the possibilities of wireless being extensively used in railway operation. They have been heard in this country also, accompanied by a comparing of trains with ships and aeroplanes, the operating conditions of which are totally different. No doubt there is a field—even perhaps a considerable one—for wireless forms of communication on the railway, and it is easy to envisage some circumstances in which it could render very acceptable services. When we speak of wireless we include, of course, such local arrangements as inductive communication between the head and tail of a train. This is certainly a useful thing on the very long freight trains run in the U.S.A. and could be on some trains here. The idea, however, that our ordinary signalling arrangements could be superseded by the process of talking to each train from one central point is ridiculous, and shows a complete lack of knowledge of the conditions of railed transport. Equally absurd is the contention we heard put forward here recently that wireless would enable a great many accidents to be avoided. Nothing introduced now in this country could do that, for there are very few accidents on our railways as it is, and this condition has long obtained.

German Austerity Condensing Locomotive

A 2-10-0 type condensing locomotive built in Germany during the war has been inspected recently by a member of the Forces. This engine appears to have been built this year by Henschel & Sohn, of Kassel. On page 398 is published a letter from Lieut. J. N. Lockyer, who has seen the locomotive and whose account of it is of considerable interest at the present time. Locomotives of the fuel condensing type have been built in Germany for many years, and in 1932 a 2-8-2 type engine of this design was tested by the Argentine State Railways. From the description given by Lieut. Lockyer, the general outline of the latest locomotive appears to be similar to that tested in Argentina, and of which a brief description appeared in our June 17, 1932, issue. In that case the tender was equipped with an air-condenser to convert the exhaust steam to water which, after condensation, was fed to the boiler at a temperature of 80/90° C. by two steam-operated feed-pumps. An evaporator was fitted by which all made-up water could be evaporated before passing into the circuit. A summary of a paper on condensing locomotives, by Professor G. V. Lomonosoff and Captain G. Lomonosoff, which was read by the latter before the Institution of Mechanical Engineers, was given in our June 2 issue.

British Railways and Tourists

IN our issue of September 22 we dealt at some length with a memorandum issued by the Travel & Industrial Development Association of Great Britain & Ireland, setting out its views as to what should be done to promote tourist traffic in Great Britain after the war. In a recent issue of *The Spectator*, Sir Evelyn Wrench contributes an article dealing with the same memorandum, in the course of which he suggests that to make Great Britain more attractive to tourists, a start must be made by revising the amenities available at ports and stations. In his view, in no direction is imaginative planning more necessary than in the rebuilding of the main railway stations in Great Britain, and he draws comparisons unfavourable to this country with some recently-built stations in the United States. He would also like to see improvements in rolling stock of all kinds and especially, perhaps, in dining car services. It might be interpolated here, perhaps, that the rebuilding of railway stations and their improvement is justifiable only where improvement in passenger or merchandise working is effected as a result. A modern station as such does not attract traffic; however great its amenities, it is used purely as an embarking and disembarking point by the traveller.

Sir William Wood, President of the London Midland & Scottish Railway, has replied to Sir Evelyn Wrench in *The Spectator*

of October 20. Sir William points out that the transport and social conditions of America and Great Britain differ so greatly that comparisons are difficult. Whereas the British railways were built mainly through settled country where land values were high, in America a great part of railway construction preceded urban development; furthermore, land grants were made to the U.S. railway companies totalling 179,000,000 acres. In Germany some elaborate stations which formed "popular social centres" were paid for largely by State and Municipal grants. There are also differences between the passenger traffics of the United States and Great Britain. The number of miles of running lines in the United States is eight times that in Great Britain, but the number of passengers is only one third. The average United States passenger travels three times the distance of his opposite number in Great Britain, which makes the number of miles of travel practically the same in each country. Thus the density of travel is eight times greater in Great Britain, where the average fare is 30 per cent. below the U.S. average, quite apart from supplemental fares.

Sir William doubts if waiting halls the size of cathedrals, or an organ playing at intervals, or the greater time taken to move between trains and streets, would appeal to the great bulk of passengers here. In the years before the war, re-equipment of the British railways was concentrated on track, signalling, and trains, which has proved to the nation's great advantage in recent years. Streamline trains are justified only if the extra cost is at least equalled by fuel saving. Without going into the wider aspects of electrification, Sir William points out that the proportion of electrified to steam mileage in Great Britain is five times greater than in the United States. Very pertinently, he points out that although the placing of terminal stations underground may save space for the planner, it is the passenger—and we may add the trader—who must pay in the long run the many millions of pounds this would cost. Meals on U.S. trains cost much more than those here, and are sold at a considerable loss compared with a moderate profit here.

In general, there is a steady exchange of ideas, discoveries, and new practice between the American and British railways, and the fact that there are differences in methods, which appear on the surface to show that one or the other is in advance, does not mean that there are ring fences round each. The mere examination of ideas which cannot be copied often provokes other ideas or methods which can be, and are, adopted.

British Railways—Facts and Figures

IN our issue of October 13 we referred briefly to the interesting booklet which has been published under this title by the four main-line companies and the London Passenger Transport Board. At last we have a few railway operating statistics for the year 1943. The figures relate to the railway companies only and are compared with the results for the pre-war period of 12 months from September, 1938, to August, 1939, inclusive. The contrast between wartime and peacetime traffics is so striking that we propose to discuss the statistics in some detail.

Last year passenger journeys increased by 76,500,000, or 6 per cent. over pre-war carryings. Each passenger travelled 25 miles on an average whereas the average peacetime journey was 16 miles. Passenger miles consequently show the large advance of 70 per cent., though passenger train mileage was reduced by 29 per cent. In these circumstances, overcrowding in many trains was unavoidable.

When we turn to the freight statistics, the reason for the curtailment of passenger services is obvious. The originating tonnage of general merchandise was 71 per cent. greater and the tonnage of minerals, such as iron ore and limestone, was up by 34 per cent. Because of the decline in the output of the mining industry, the tonnage of coal and coke fell from 179,700,000 tons before the war to 154,800,000 tons in 1943, a decrease of 14 per cent. Taking all classes of freight together, the total tonnage conveyed was 297,100,000, or 9 per cent. over the pre-war figure of 272,900,000. Even allowing for the fact that 1938 and 1939 (until September) were lean years compared with 1937, the growth in the volume of traffic threw a great strain on the railways because transits were much longer than in peacetime, as shown in the table below:—

	Length of haul in miles	Pre-war period		1943
		1938-39	1937	
Merchandise	103	119	
Minerals	62	87	
Coal and coke	44	60	
All freight	58	82	

The extra haul of 16 miles on every ton of coal and coke

conveyed raised problems of exceptional difficulty for the rail carriers. Serious as the fuel position has become, matters would have been much worse if the railways had not given priority to the working of large quantities of coal which ordinarily would have passed by sea.

The following table is compiled from details given in the booklet:—

FINANCE			
	Main-line railways	L.P.T.B.	Total
Capital Expenditure			
1940	£1,184,962,000	£150,045,000	£1,335,007,000
1941	£1,186,884,000	£150,977,000	£1,337,861,000
1942	£1,187,687,000	£151,189,000	£1,338,876,000
1943	£1,186,985,000	£151,352,000	£1,338,337,000
Capital Receipts			
1940	£1,099,576,000	£111,934,000	£1,211,510,000
1941	£1,099,560,000	£111,834,000	£1,211,494,000
1942	£1,099,510,000	£111,934,000	£1,211,444,000
1943	£1,099,460,000	£112,256,000	£1,211,716,000
Net Revenue			
1940	£38,607,000	£4,812,000	£43,419,000
1941	£39,763,000	£4,843,000	£44,606,000
1942	£40,137,000	£4,841,000	£44,978,000
1943	£40,280,000	£4,714,000	£44,994,000

Net Revenue as a Percentage of Capital Receipts

	Main-line railways Per cent.	Main-line railways and L.P.T.B. Per cent.
1940	3.51	3.58
1941	3.62	3.68
1942	3.65	3.71
1943	3.66	3.71

PASSENGER TRAFFIC

	Pre-war*	1943
Passenger Journeys		
Ordinary and workmen	813,600,000	975,600,000
Season tickets	377,900,000	292,400,000
Total	1,191,500,000	1,268,000,000
Passenger Miles (Approximate)		
Ordinary and workmen	14,286,600,000	28,593,600,000
Season tickets	4,706,100,000	3,616,700,000
Total	18,992,700,000	32,210,300,000
Passenger Train Miles		
Loaded	275,900,000	194,000,000
Empty	9,600,000	8,100,000
Total	285,500,000	202,100,000

FREIGHT TRAFFIC

	Pre-war*	1943
Freight Train Traffic Originating		
Merchandise—tons	47,300,000	81,000,000
Minerals—tons	45,900,000	61,300,000
Coal, coke, etc.—tons	179,700,000	154,800,000
Total—tons	272,900,000	297,100,000
Net Ton Miles		
Merchandise	5,192,000,000	9,659,000,000
Minerals	3,182,000,000	5,355,000,000
Coal, coke, etc.	8,295,000,000	9,343,000,000
Total	16,669,000,000	24,357,000,000
Loaded Wagon Miles		
Merchandise	1,887,400,000	2,537,300,000
Minerals	334,000,000	534,200,000
Coal, coke, etc.	872,300,000	980,700,000
Total	3,093,700,000	4,052,200,000
Average Loads per Wagon		
Merchandise—tons	3.00	4.12
Minerals—tons	9.95	10.49
Coal, coke, etc.—tons	10.38	10.34
Total—tons	7.29	7.47
Average Wagons per Train		
Loaded	23.09	26.01
Empty	11.34	8.93
Total	34.43	34.94
Freight Train Miles		
Loaded	119,700,000	135,500,000
Empty	14,300,000	20,300,000
Total	134,000,000	155,800,000

* September, 1938, to August, 1939, inclusive

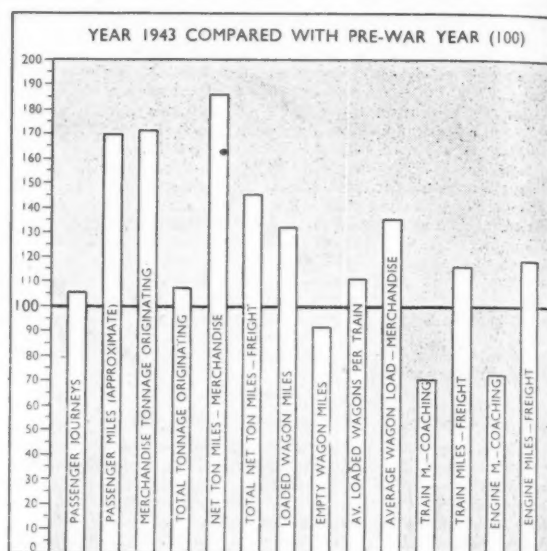
Net ton-miles reached the record figure of 24,357,000,000. That represents an advance of 46 per cent. on the immediate pre-war period and an increase of about one-third on the 1937 ton-mileage. We estimate that the net ton-miles per route mile per annum would also be at least one-third above the 1937 figure of 919,385 for all railways. This gives an idea of the density of wartime traffic, but, by better loading of wagons and trains, freight train miles were held down to 155,800,000, representing an increase of 16 per cent. over the pre-war mileage.

The average wagon load of merchandise was raised from 3 tons pre-war to 4.12 tons in 1943. The mineral wagon load also advanced from 9.95 tons to 10.49 tons, but there was a slight drop in the wagon load of 10.38 tons for coal and coke—no doubt because of the use of 12-ton requisitioned wagons for the inland conveyance of coal which used to be forwarded for shipment in

20-ton railway wagons. The average number of wagons per train was 35 and only 9 of them were empty; pre-war this average was 34, including 11 empties. The effect of the improved loading was to lift the average train load from 131 tons in 1937 to 156 tons in 1943, an improvement of 19 per cent.

The loaded wagon mileage of 4,052,200,000 was 31 per cent. above the pre-war twelve months. The booklet does not give the empty wagon mileage, though it states that the empty freight train mileage was 20,300,000 last year, a rise of 42 per cent. due to war contingencies, such as the haulage of empty requisitioned wagons to collieries in Northumberland and Durham for back-loading to the south and west.

The variations in all the statistics are effectively brought out in a diagram of neat design, which we reproduce. We hope that the



release of these particulars of railway performance means that at an early date we may have a comprehensive set of statistics for the war years. In the meantime the circulation of some facts and figures will let many people see that the railways have made an invaluable contribution to the country's war effort without profit to their stockholders. Out of the total net revenue for 1943 no less than £62,000,000 accrued to the Government, while the main-line railways were left with a balance of £40,280,000, giving a return of no more than 3.66 per cent. on their capital receipts.

Russian Railway Development

THE rapid and successful evacuation of the extensive areas of Soviet Russia occupied by the Germans in 1941, the large-scale transference of industries from Russia's western provinces to Siberia, along with the simultaneous conveyance of enormous masses of troops, equipment, and war materials to the ever-changing front line in 1941, the re-occupation by the Russians of the regions they had to abandon in that year, and the re-transference thither of the evacuated population, proved to be tasks of outstanding magnitude which could not have been achieved so successfully without the existence of a well-organised preconceived scheme of railway transport based on the thorough organisation of all the railway services concerned. The success attained in this respect indicates also that it was not the result of improvisation, but of preparation (both administrative and technical) over a period of years. It will recalled in this connection that, while the first Five-Year Plan (1928-1932) was concerned chiefly with railway reconstruction and reorganisation, the second Five-Year Plan (1933-1937) saw the beginning of an era of large-scale building of new railway lines of importance from both the economic and the military viewpoints.

The Soviet Union is credited to have laid some 2,484 miles of running line during the years 1933 to 1937 (inclusive), including doubling the Murmansk line and long sections of the Trans-Siberian line, and the completion of the 1,663-mile Turksib line (Novosibirsk to Alma Ata). The third Five-Year Plan (1938-1942) envisaged building of some 4,970 miles of line,

as well as the construction of 7,350 locomotives, 178,000 wagons, and 12,000 carriages, while 500,000 wagons had to be reconstructed and fitted with automatic couplings and brakes. The completion of this enormous programme was intended to increase the traffic potential of the Soviet railway system by more than 40 per cent. to 510,000,000 metric tons a year. The realisation of this ambitious scheme, said to have been achieved by the end of 1942, is believed to have been instrumental to an important extent in the success of the wartime efforts of the Russian railways.

Shortly before Russia became involved in the war, the laying of the second track along the whole Trans-Siberian line was completed. Particular attention was paid to the connection between the Ural and Volga regions in view of their highly-intensified industrialisation and the resultant heavy transport requirements. The line linking Kuibyshev with the south was completed by building the 85-mile link between Bezentzhuk (on the Kuibyshev-Syzrap line) and Pugachev; rail connection between the latter place and Astrakhan already existed. An extension from Astrakhan to Kislaiia, about 249 miles further south, connecting at that latter point with the northern railway system of the Caucasus region (Kislaiia is but a few miles to the north-west of Makhach Kala, the well-known oil port on the western shore of the Caspian Sea) was completed in time to carry all the war traffic needed in connection with the defence of the Grozni oil region in 1942. The same line is greatly easing the conveyance of the Grozni oil to Astrakhan and beyond to the huge refinery at Guriev, on the northern shore of the Caspian Sea.

Guriev (Chapayev) is connected by railway (completed before 1941) with Kandagash, the junction with the main line for Tashkent. The 150-mile link between Kandagash and Orsk, reported to have been completed in 1942, shortens considerably the connection with the heavy industrial region which has been established around Magnitogorsk, further north, in the Ural region. Magnitogorsk has been connected by a 250-mile railway with Ufa, on the western slopes of the Ural mountain range; the line follows in part the course of the River Bielaya. The Magnitogorsk iron works were enabled thereby to dispense with the necessity of getting their supplies of manganese from the Caucasus region (Tchietury) while the Ukrainian manganese region of Nikopol was under German control.

The opening last year of the Northern Pechora railway line from Konosha (about halfway between Vologda and Piesetsk on the Vologda-Archangel line) to Ust Vorkuta was recorded at some length in our columns at the time. The new line was completed after three years of intensive work; it connects at Kotlas with the railway leading southward to Khirov (Viatka), a vital railway centre in the important system of lines linking the Moscow area with the Ural industrial region. The Northern Pechora line will be of outstanding importance in the development of the extensive coal region on the River Petchora and in the Northern Ural mountain range, the present output of which is said to average three million metric tons per annum. In addition, the railway carries the supplies of crude oil to the huge refinery which has been erected at Ust Ukhta (Chichybu), the annual capacity of which is reported to be some 5,000,000 metric tons. A revised map of the railways of European Russia, showing the lines to which these remarks apply, was published in our issue of December 10, 1943 (pages 584-5).

Railway Pool Receipts

SOME time must elapse before the working results of the railway companies for the current year are known, but certain indications already are becoming apparent. There are just over two months of the year still to come and probably a further three months before the usual annual estimate of the pooled receipts and expenses of the railways is available. Nevertheless, it seems likely that when these results are known they will show a decided change in the hitherto remarkable rate of progression of the amount of the pool of net revenues. If, as seems likely, there is some falling off in the total amount of net revenue earned by the railways during this year, that will not, under the existing agreement with the Government, be reflected in the amounts available for the stockholders; just as they have failed to benefit from the progressive increase which has occurred since control of the railways passed to the Government, so now they will not feel the effects of a diminution in the net profits of their lines. That, indeed, may be poor consolation to the proprietors of the railways, in view of the great sums which have

passed to the Exchequer as a result of the operation of their undertakings.

In a recent article in the City columns of *The Times*, the pooled receipts and expenses during the last three years were recalled in a table which is given below (figures of passenger mileage and loaded wagon mileage are added to show the corresponding growth in the volume of work, for the financial results do not always reflect the work entailed in achieving them):—

	(In millions)					
	1943		1942		1941	
	£	Per cent.	£	Per cent.	£	Per cent.
Gross receipts—						
Passengers ...	186.3	141	163.5	124	132.1	100
Freight ...	190.9	120	176.7	111	158.8	100
Miscellaneous ...	4.5	155	3.3	113	2.9	100
Expenditure ...	381.7	130	343.5	117	293.8	100
	272.3	120	251.7	111	226.6	100
Net receipts ...	109.4	163	91.8	137	67.2	100
Other items ...	Dr. 3.8	186	Dr. 2.7	128	Dr. 2.1	100
Net pool rev.	105.6	162	89.1	137	65.1	100
Passenger mileage ...	32,210	130	28,960	117	24,835	100
Loaded wagon miles...	4,052	106	3,983	104	3,838	100

It will be seen that already in 1943 the rate of increase of receipts was beginning to tail off, and the general indications are that this tendency has been accentuated during the current year. It will be recalled that the Prime Minister, in his recent war review, stated that in the first 24 hours after D-Day 250,000 men were landed in France, by the twentieth day 1,000,000 men were ashore, and by September 28 (when he spoke) there were between 2,000,000 and 3,000,000 men in France. It may be assumed that these men came from, or passed through, Great Britain, and that their absence abroad has meant a reduction in passenger travel. The change-over which has occurred in munitions production probably also has meant a decrease on balance in travelling by factory employees. On the other hand, the movement of people from and to Southern England to and from the rest of the country must have involved an increase in passenger traffic. There was also an obvious growth in holiday traffic during the summer. On balance, it is likely that the volume of passenger traffic this year has been slightly greater than it was for the previous twelve months; that is to say, the rate of increase in receipts probably has continued to fall away.

Much the same applies in connection with goods traffic. The effect of the invasion of the Continent may not have had the same direct effect on goods movement as on passengers, because the armies in France presumably still have to be supplied from here; but the change-over from munitions production probably has entailed a decline in the transit of materials. Moreover, it is common knowledge that the production of coal has fallen sharply this year. If these deductions are well-based, the gross pool receipts would seem unlikely to vary greatly from the £381,700,000 of 1943; if there is an increase, it is certainly unlikely to be anything comparable with the £38,000,000 rise for last year.

On the expenditure side it cannot be assumed that the volume of work required to move the traffic has been smaller. It may, indeed, have been greater. What is known, is that war wages were advanced by 5s. a week in April, and that coal prices have undergone a further increase during the year. The trend of other material costs also has been upward. Indeed, it is probable that expenditure, unlike gross receipts, may show a rate of increase at least as great as that for 1941-43. Obviously, the translation into figures of these estimated changes must be speculative, for the margin of error is clearly wide, but if gross receipts were to rise for the year to, say, £384,000,000, and expenditure to £300,000,000, the net pool revenue (allowing for the other items included in the pool) would fall from last year's total of £105,600,000 to £80,000,000. This would mean a figure of £9,000,000 below that for 1942, although it would still be above that for 1941. Whether the foregoing figures should prove approximately correct, or not, they do at least illustrate how sensitive railway net revenues are to fluctuations in the general volume of traffic, and they suggest that the time when a decision will have to be taken on the fundamental relationship of charges to expenses cannot be postponed indefinitely.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Names of Stations

Egyptian Government,
41, Tothill Street,
London, S.W.1. October 20

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—It is curious to notice how many suggestions made by travellers and others turn out to be throw-backs on bygone days. I am referring now to a paragraph in your Scrap Heap page in the current issue of *The Railway Gazette*, under heading "Names of Stations." Mr. C. Grasemann had written to *The Daily Telegraph* criticising a suggestion that had been made to the effect that station name boards should be set at an angle facing approaching trains (presumably to render them more easily readable by passengers). Mr. Grasemann pointed out that the benefit would accrue only to passengers facing the engine; those with their backs to the engine would have their view impaired.

At least 35 years ago, on the Egyptian State Railways, when new stations were being built, or old ones reconstructed, station name boards were provided which were composed of two boards, each with the name set at an obtuse angle to each other, so that the name was equally readable from each direction. This, of course, meant double expense for each announcement, and the advantage gained by the passenger was not considered enough to make it worth while continuing the system.

Yours faithfully,
R. E. THOMAS,
Chief Inspecting Engineer

"A Protest at Railway Propaganda"

Fen Road, Milton,
Cambridge. October 15

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Your issue of October 6 included a letter from Mr. G. H. Bartram which endeavoured to enlighten me concerning his protest at railway propaganda. In spite of his efforts, I am even more convinced that he is making "mountains out of mole-hills" and sincerely feel that his literary efforts published in your journal are very "much ado about nothing."

I will come to the whole point quickly, and refrain from commenting on the countless words Mr. Bartram writes concerning Cabinet Ministers, Government officials, civil servants, what Mr. Tooby and Miss Britain think because it's obvious that Mr. Bartram loves to argue about civil servants, Cabinet Ministers, etc. etc., *ad nauseam*.

The poster issued by "unimaginative officialdom" was far from being superfluous. In this total war that advertisement "the signal is against holiday travel" whether published in *The Railway Magazine*, *Observer*, *Daily Worker*, *The Women's Weekly*, or the comic paper *Chips* is virtually an order not to travel. Therefore rather than burst our chests with uncontrollable rage at "filthy propaganda" it is far better for the sake of ourselves as well as the nation, to heed the warning, refrain from arguing as to "why we ought to travel," and help our railway operators who are doing a magnificent job. By such action the public earns the gratitude of the men and women who are really fighting this war, because by staying at home out of the way the railways are not smothered with countless Mr. Bartrams, all disregarding a "superfluous" advertisement.

Yours faithfully,
PHILIP SPENCER

Railway Electrification Pros and Cons

Oxford, Oxon. October 14

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—With reference to several letters on "Railway Electrification Pros and Cons," I venture to say that as regards pre-war main-line expresses, speeds were swiftly reaching their maximum, at any rate on ordinary double-track main lines. The London & North Eastern Railway kept two blocks ahead clear to ensure greater safety for its three streamline trains, with consequent disturbance of slower train schedules.

The Southern Railway has made a great success with its electrification, because in relation to other railways, the freight traffic is comparatively small. Lines with a frequent service of trains, travelling at similar speeds, naturally create uniform headway distances and are ideal for total electrification.

As Mr. O. S. Nock pointed out in an earlier letter, the speed

of a goods train in this country relies, not so much with the motive power, but rather with the antiquated British railway wagon, with loose couplings and no continuous brake. Except probably climbing steep gradients, the average speed of our freight trains would not be greatly accelerated by the use of electric locomotives.

In Switzerland where electric railways rule supreme, I notice that steam shunting engines are still at work. Except for hump yard shunting I have found the flexibility of the 0-6-0 steam locomotive unchallenged for pilot duties.

The time taken up by shed duties could easily be cut by half, by the fitting of rocker bars and hopper ash pans. Mechanical lubricators for axleboxes, slide bars, valve guides, glands, and cylinders would enable the engine to be in traffic longer.

Yours faithfully,
E. R. LAWTON (Spr.),
Royal Engineers

German Austerity Condensing Locomotive

B.L.A. September 15

TO THE EDITOR OF THE RAILWAY GAZETTE

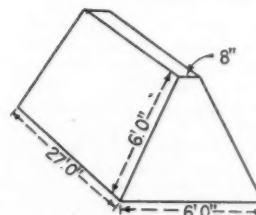
SIR,—I am taking this opportunity of forwarding to you some details of a German locomotive which I came across the other day. The locomotive had been hauling a freight train which presumably had been attacked by the R.A.F., as every wagon was destroyed. But the engine, which had been drawn clear of its train, was to all outward appearances undamaged and in working order. She was a two-cylinder 2-10-0 fitted with condensing gear. Her number was 52-1973, and a plate on the side of each steam chest had the following lettering:—



The figures 27301 were stamped on and were presumably the maker's number. Other measurements which may be of interest were:—

Diameter of driving wheels 4 ft. 4 in.
Rigid wheelbase 22 ft.

Working pressure was 15 kg/cm² which works out to be 213 lb. per sq. in. There was a red line on the steam gauge at 16 kg/cm² which presumably is where she blows off. The pistons drove the middle pair of coupled wheels. All driving wheels had flanges. The condensing arrangement was mounted on a large tender carried on a 6-wheel leading bogie and a 4-wheel trailing bogie. Right at the front of the tender was the usual coal bunker which, however, appeared to have a small capacity judging by our standard. Immediately behind the bunker was a compartment stretching the full width of the tender and about 4 ft. long. This housed some sort of an engine. Behind this again was the main compartment which stretched right to the rear buffer plank. In this compartment was a large container of triangular cross section resting with one side on the floor. It was 27 ft. long and had 6-ft. sides. The top was 8 in. wide. A rough sketch follows:—



The sides of the tender over the length of this compartment were in the form of radiators measuring 7 ft. high and 4 ft. wide. There were five each side, making ten in all, and all were fitted with louvers on the outside. Mounted on the top of the large condensing container were three large 7-bladed fans of 7 ft. 8 in. diameter driven by horizontal shafting from the engine in the compartment behind the coal bunker. Obviously, these were rotated at high speed and expelled the hot air from the tender and drew in cold air through the radiators.

The line of flow of water and steam around the condenser was hard to follow as it was mostly concealed behind plating. However, a large steam pipe measuring 15 in. outside dia. including lagging and casing could be seen running from between the cylinders back along the left side above the running plate, down

under the cab and into the tender where it disappeared into the floor. What happens to the exhaust steam after this I couldn't follow, but apparently the donkey engine mentioned earlier, besides rotating the fans, does some sort of pumping work as well, as two 9-in. pipes led into the bottom of it from the condenser, and presumably assists in the circulation.

The engine had 22.5.44 painted on its cab side, probably the date it came out of the shops.

If you consider the information in this letter of interest or use, please pass it on, as I am out of touch with them all now, and feel that your journal is my last link with the railway world!

Yours faithfully,

J. N. LOCKYER (LIEUT. R.E.)

British Railways and Post-War Air Transport

London. October 23

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Since receipt of your October 20 issue I have studied the railway companies' scheme for developing air transport in the light of your excellent editorial. From the Government's point of view Lord Beaverbrook was right in calling the plan "splendid," but is it business? Why should railway stockholders bear the whole burden of initiating air services which admittedly will not pay their way for years? Fortunately, the companies' proposal is qualified by a big "if": their offer stands only if subsidies are not given to either British or foreign airlines. The prospects of all European countries agreeing to stop direct subsidies are probably remote and, unless indirect subsidies, such as the provision of aerodromes, lighting of airways, radio communication and weather reports are continued, it is doubtful whether privately-owned airlines could carry on. The upshot may well be that the British Overseas Airways Corporation will survive to draw the subsidy assigned to it by the Act of 1939 and to do most of the pioneer work for continental services.

In any event could the railways not avoid the capital expenditure and heavy financial risks, which they propose to incur, by following the policy adopted with road transport? The companies took a financial interest in bus and road haulage undertakings, but left the road experts to manage the concerns while keeping a watch on their proceedings and doing all they could to further road and rail co-ordination. Instead of floating their own air company and allowing outsiders to come in, the railways might take up shares in airlines projected by people with a substantial backing and genuine enthusiasm for civil aviation. The railway canvassing and tourist agencies would be of great assistance to the new airlines in securing business and co-ordinating air, rail, road and sea services. A considerable amount of commission would no doubt accrue to the railways and their managements would be freed from the responsibility for operating air services—a task for which the railway organisation is hardly suited.

Yours faithfully,

ARIEL

Locomotive Names

33, Upper Belgrave Road,
Clifton, Bristol, 8. October 15

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—With reference to the note in "The Scrap Heap" in the October 13 issue, suggesting aircraft types which might be commemorated in future locomotive naming, your readers are doubtless aware that 10 at least of the names listed are already carried by locomotives of the "Castle" class of the G.W.R., with two others not shown in the list, as follows:—

No. 5071 Spitfire	No. 5077 Fairey Battle
5072 Hurricane	5078 Beaufort
5073 Blenheim	5079 Lysander
5075 Wellington	5080 Defiant
5076 Gladiator	5082 Swordfish
and 5074 Hampden	
5081 Lockheed-Hudson	} not on the list

For reference to the above list of names, I am indebted to Mr. Ian Allan's excellent booklet, "The ABC" of G.W.R. Locomotives," one of his series published in October, 1943.

While on the subject of engine names, may I say that I was glad to read Mr. T. W. I. Bell's letter urging the perpetuation of the Scottish names of the Reid "Atlantics" and also the "Glens" and "Scotts" as and when the old locomotives are scrapped. As a West of England man, I am naturally much more familiar with the G.W.R. but, as with your correspondent and his Scottish class names, I have a similar wish that some former well-known G.W.R. locomotive names might be revived, preferably in place of some of the existing class names which, to my mind, are not particularly interesting.

I refer to some of the "Halls," "Granges," and "Manors." Could they not again carry "City" and "County" names, but, as a variant from the old classes, have the words City and County after the name? The following are two suggested lists of names:—

Westminster City
Bath City
Bristol City
Wells City
Exeter City
Birmingham City
Chester City
Hereford City

Middlesex County
Buckinghamshire County
Berkshire County
Oxfordshire County
Wiltshire County
Gloucestershire County
Somerset County
Hampshire County
Dorsetshire County
Devonshire County
Cornwall County
Warwickshire County
Worcestershire County

"Cities"

Plymouth City
Truro City
Oxford City
Gloucester City
Worcester City
Cardiff City
Salisbury City
Winchester City

"Counties"

Shropshire County
Cheshire County
Herefordshire County
Monmouthshire County
Glamorganshire County
Carmarthenshire County
Pembrokeshire County
Cardiganshire County
*Montgomeryshire County
Merionethshire County
Radnorshire County
Brecknockshire County

* How appropriate to commemorate this name:

Most of these counties are "shires" and it is a debatable point whether or not the "-shire" should be shown in all such cases, for example, "Gloucestershire County" or "Gloucester County." Personally, I prefer the former. Would not these "County" and "City" names make a fresh appeal to all those who, like Mr. Bell and myself, take a particular interest in named locomotives, and especially in names which suggest at once the territory or routes covered by the company's trains? But in the case of many of the "Halls," "Granges," and "Manors," I think that unless one is interested in old country houses or has seen them frequently, these names do not convey much. Again, however, this is only a personal opinion.

Yours faithfully,

RALPH L. WILKINS,

President, Bristol Railway Circle

The Maidstone Train Service in the Past

74, Claverdale Road,
Tulse Hill, S.W.2. October 16

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Canon Fellows's letter in your October 13 issue regarding London-Maidstone train services caused me to look up some old S.E.C.R. timetables from which the following items have been taken.

In July, 1912, the 4.10 p.m. and 5 p.m. trains from Victoria both ran to Maidstone East in 58 min., the former calling at Herne Hill to attach a City portion; the latter was non-stop. The 5.15 p.m. from St. Paul's called at London Bridge and Swanley and was due at Maidstone East at 6.21 p.m. On Wednesdays a late train left Charing Cross at 11.45 p.m., stopped at London Bridge, Wrotham, and conditionally at Malling, and reached Maidstone East at 12.50 a.m. From Maidstone East the 10.2 a.m. ran to Victoria without a stop in 58 min.; the 3.52 p.m. (with 2 stops) and the 6.21 (with 3 stops) were due at Charing Cross at 4.55 p.m. and 7.26 p.m. respectively. The special "Wednesday only" train left Maidstone East at 1.18 p.m. and was booked to reach London Bridge at 2.14 p.m. and Charing Cross at 2.22 p.m. The last up train on weekdays left Maidstone East at 9.25 p.m.; it called at all stations to Clapham (with a 12 min. wait at Swanley) and was due at Victoria at 11.57 p.m. It is only fair to add, however, that, by changing at Swanley, Victoria could be reached half-an-hour earlier. In 1912 the Sunday service between Victoria and Maidstone East consisted of 5 trains each way, with a quickest time of 89 min.

In February, 1922, the 5 p.m. from Victoria was due to reach Maidstone East in 57 min. Other fast trains from the same terminus (all calling at Bromley South) were: 9.45 a.m. (61 min.), 12.12 p.m. (62 min.) and the 7.15 p.m. (63 min.). The 11 a.m. from Charing Cross called at London Bridge and Hither Green and was due at Maidstone East at 12.5 p.m. Fast trains for Victoria left Maidstone East at: 9.15 a.m. (in 65 min., calling at Swanley Junction, Bromley South, and slipping a City portion at Herne Hill), 10.6 a.m. (in 57 min.), 2.36 p.m. (in 60 min., calling at Bromley South), 4.45 p.m. (in 63 min., calling at Bromley South and Beckenham Junction). Of the six Sunday trains in each direction, two were fast, stopping only at Beckenham Junction and Bromley South; from Victoria at 9.30 a.m. (in 65 min.), and 5.15 p.m. (in 70 min.), and from Maidstone East at 11.30 a.m. (69 min.) and 8.10 p.m. (67 min.).

Yours faithfully,

G. J. MOODY

The Scrap Heap

More than 20 tons of linen has been salvaged from obsolete destination blinds on London buses. The white linen is in particular demand for cleaning purposes in such London Transport workshops as the Signal Department, where the workers handle delicate mechanism. The linen is also used for radiator blinds, anti-blast window fabric, sacks, and for making driving-cabin mats.

DUCHESS IN COALMINE

The Duchess of Kent made her first trip down a mine when she visited Horden Colliery, Durham, the largest coalmine in Britain, last week. Returning with a grimy face after her inspection, she said: "I have always wanted to go down a pit and this is my first trip. I found everything frightfully interesting. The miners all looked very happy and very well cared for."

"PADDINGTON STATION RESORT OF THIEVES"

Remarking that Paddington G.W.R. station was becoming a resort of thieves, Mr. Powell, the Marylebone magistrate, recently sentenced a L.P.T.B. ticket collector, to nine months' imprisonment on charges of stealing suitcases and contents, worth about £350. A private of the East Yorks Regiment was sentenced to three months' hard labour on a charge of stealing a suitcase and contents. The magistrate said these thefts were occurring every day, and it was not safe for anybody to leave luggage on the platforms.

DORMANT DIFFICULTIES

The intricacies of the English language are well illustrated in the definition of a sleeper. A sleeper is one who sleeps. A sleeper is that in which the sleeper sleeps. A sleeper is that on which the sleeper runs while the sleeper sleeps. Therefore, while the sleeper sleeps in the sleeper, the sleeper carries the sleeper over the sleeper under the sleeper, until the sleeper which carries the sleeper jumps the sleeper and wakes the sleeper in the sleeper by striking the sleeper on the sleeper and there is no longer any sleeper sleeping in the sleeper on the sleeper.—Mr. F. H. Banner, writing in "Picture Post."

Mr. Joseph Woolley, who recently retired after 40 years as a railwayman attached to Willesden Locomotive Sheds, was Chairman of the Wembley Labour Party for about three years, and once stood unsuccessfully as a Labour candidate for the Wembley Council in the old Wembley Hill ward. He is a keen trade unionist, and in 1920 a gold medal was presented to him in appreciation of his work as Chairman of Willesden No. 1 Branch of the N.U.R. He was a member of the London District Council of that Union, and held a position on the Finance Committee.

GERMAN PRISONERS IN TRAIN SCENE

As a trainload of German prisoners was passing slowly through Woking Station one day last week a prisoner attempted to throw a letter out of the window. He was stopped by a soldier guard, who grabbed the letter. The German showed temper, whereupon he was pulled back into his seat and several of his comrades sat on him. Quiet had been restored when the train pulled out.

AIR TRAVEL EXPERTS

A university professor headed the experts who drew up the British Railway plans for air travel.

He is Brig.-General Sir Harold Hartley, a vice-president of the L.M.S., a Research Fellow of Balliol College, Oxford, and one of the foremost research scientists of the country.

His picked team included some of the best-known organisers and engineers in the railway world—Mr. K. W. C. Grand, Assistant General Manager of the G.W.R.; Mr. J. B. Elliot, Deputy General Manager of the Southern; Mr. O. H. Corble, Assistant General Manager of the L.N.E.R.; Mr. W. P. Bradbury, Chairman of Scottish Airways; Lord Amherst, Wing Commander Measures who did the first survey for nearly all the Dominion air routes, and Mr. Denis Handover, formerly traffic manager of Imperial Airways, as air adviser.

All pay tribute to Sir Harold. "It was his conception," they say. "He jockeyed us all along and worked like a beaver."

The committee met most days of the week at Victoria, Liverpool Street, Paddington or Euston. They flew over every route in Britain on which they proposed to operate. Often they were away for days at a time.—From "The Star Man's Diary" in "The Star."

At the end of the year Mr. Arthur Towle is giving up many of the responsibilities of his post of Controller of L.M.S.R. hotels. He is 66, and he has managed this chain of 26 hotels for 20 years. Now, he tells me, he wishes to take things a little more easily.

The change will mean promotion for his 40-year-old chief assistant, Mr. F. G. Hole, who has worked with Mr. Towle for 12 years.

"I may not keep the title of controller," Mr. Towle says, "but I shall continue to guide the L.M.S.R. on its hotels policy."

Mr. Towle joined the L.M.S.R. 47 years ago. Since 1925 he has visited every big L.M.S.R. hotel at least once a month.

Before the war he made a practice of arriving without warning. "I don't do it now," he says, "or I should have to sleep in the street."

He hopes to give more time to problems of hotel rehabilitation after the war. He is deeply interested, too, in building up the tourist industry. "We have never quite understood the hotel business in this country," says Mr. Towle. He believes that the education of young men entering the business would greatly improve the position.—From "The Londoner's Diary" in "The Evening Standard."

THE CAPITALIST SYSTEM

We are always told by those who have been infected in this way that all our troubles are due to the profit-making of the capitalist system.

But half a moment's reflection shows that the capitalist system is a great loss-making system. It is the State which always insists on a profit. It is the State which cannot wipe out losses.

If the State struck a bad patch and performed the process of writing down its capital, that action would be called repudiation. Confidence in Britain would be shattered, and one thing and another.

The Treasury never lets go. If the State had owned the stage coach "industry" a century ago, do you think the House of Commons would have agreed in a hurry to Acts establishing railways?

If the railways were nationalised now, do you think the Treasury would help road transport or encourage civil aviation to skim the cream of its revenue from the railways?—William Barkley in the "Daily Express."

TAILPIECE

(The railways have published their air plans)

The sleek express which now is planned, That winged Pegasus of the skies, An Iron Horse—but steam is banned—Brings admiration to our eyes. How joyous the day when the passenger sings

The "Cheltenham Flyer" has taken to wings!

No journey then will be too long,

To Penzance, or to North of Tweed,

So swiftly will we speed along

That sleepers we shall never need.

How happy the day when the passenger sings

The proud "Flying Scotsman" has taken to wings!

To Paris, Brussels, or to Prague,

Vienna too; a rapid ride,

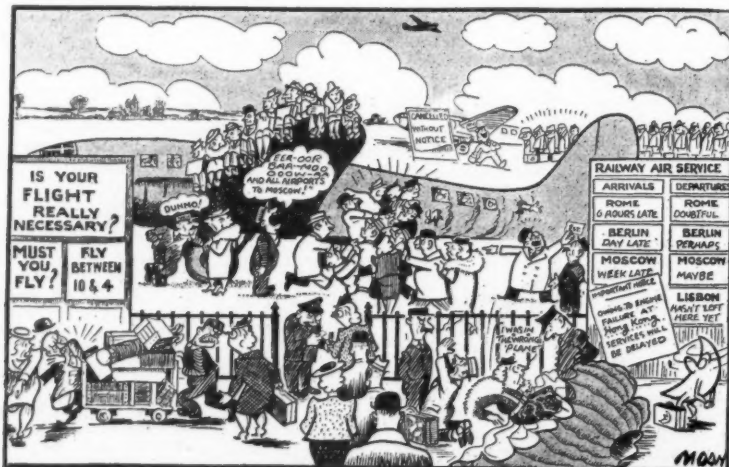
To Rotterdam or to the Hague,

And never wait for wind or tide.

How thrilling the day when the passenger sings

The "Cross Channel Packet" has taken to wings!

A. E. C.



So the railways are going to run some air services?

(From the "Sunday Dispatch")

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

SOUTH AFRICA

Goods Traffic and Wagon Shortage

Problems connected with the handling of goods traffic have become acute recently, and the available wagon capacity has not been sufficient to cope with increasing demands, in spite of considerable additions to wagon stock. The railway authorities have had to observe a strict system of priorities: coal, perishable products, livestock and some other essential items are being given preference. Various measures to conserve wagon capacity have been introduced; these limit facilities at certain centres, but this cannot be avoided until South Africa can obtain more wagons and locomotives.

Railway Catering

During recent years all departments of the South African Railways have had to contend with considerable difficulties, and not the least of these have been in connection with catering on trains. Costs of commodities have continued to rise, and supplies often have been difficult to obtain; in addition, 158 experienced men of the Catering Department are on active service.

In spite of this, records were established for the year ended March 31 last. The number of meals served was 4,320,049, of which 1,501,530 were served to military personnel. The revenue of the Catering Department, which was higher than for 1939-40 by £989,071, amounted to £1,688,595. Expenditure amounted to £1,417,237.

Only six stewards are allowed to every dining saloon. This means, in serving three sittings at one meal, the handling of 1,320 pieces of cutlery, 200 large items of silverware, 900 plates, and 132 cups and saucers. A corridor steward on the average opens and closes 600 doors and walks from eight to twelve miles a day in the train.

A staff tea room was opened recently on the top floor of the station building in Johannesburg. It provides meals and refreshments for the railway staff at prices about 50 per cent. below those ruling at similar establishments in the city. Revenue for July amounted to £1,080.

UNITED STATES

New Lines

The Chicago, St. Louis & New Orleans Railroad, a subsidiary of the Illinois Central System, has been authorised by the Interstate Commerce Commission to construct a branch $4\frac{1}{2}$ miles long from Greenville, Kentucky, to link up with the lines of the Beech Creek Mining Company, at an estimated cost of \$187,000.

The Atchison, Topeka & Santa Fe Railway System is applying to the I.C.C. for authority to build a line 2 miles long from its Wilmington branch at Los Angeles to give access to the port of Long Beach, California.

New and Abandoned Lines

Apart from the various railways which have been built by the United States, some of not inconsiderable length, to serve its various military camps, a good deal of railway construction is going on at present, or is projected, mostly in short lengths.

One of the larger-scale proposals is that made by the Florida East Coast Railway to the Interstate Commerce Commission for a 30-mile line from Okeechobee to Fort Pierce, Florida; but this is linked with an

application to abandon 136 miles of the existing branch from Maytown to Okeechobee; the new line would give access to the further end of the branch, extending southwards from Maytown.

Other proposals are in connection with the relocation of main lines to cut out heavy gradients, sharp curvature, and other impediments to high speed. In this category is the plan of the Missouri Pacific Railroad to avoid two single-line tunnels with restricted clearances, near Barrett, Missouri, by a new line a mile long, construction of which has been approved by the I.C.C., and is to cost \$315,000. A much larger scheme, for which contracts have been placed, is that of the Great Northern Railway for a change of location in the canyon of the Flathead River, similar to the re-alignment of its main line to the Pacific Coast, carried out last year west of Belton. The further plan involves the boring of three tunnels, in all $1\frac{1}{2}$ miles long, and will reduce existing curvature, as sharp in places as $14\frac{1}{2}$ ch. radius, to curves not sharper than 22 to 29 ch. radius. This re-alignment will cost \$1,300,000.

Certain lines are planned to link new coalfields with the railways. The I.C.C. has approved an application by the Baltimore & Ohio Railroad to build and operate a railway $7\frac{1}{2}$ miles long from Donaldson to Johnson Run, West Virginia, at a cost of \$445,000. The Louisville & Nashville Railroad is spending \$193,645 on the construction of branches to coalmines at Drakesboro and Romney, in Kentucky.

New 4-6-4-4 Freight Locomotives

An order has been placed by the Pennsylvania Railroad with its Altoona locomotive shops for 25 steam locomotives of the 4-6-4-4 type. One experimental locomotive of this type is already in service, so that the total will be 26. The locomotives are intended for freight service, and are to supplement, by a capability of considerably higher speeds over suitable stretches of the main lines, the large number of 2-10-4 freight locomotives recently built. The new engines, so far as can be ascertained, are not of articulated design, but have their motive power divided into two independent groups, one six-coupled and the other four-coupled, similarly to the arrangement on the two successful 4-4-4-4 passenger locomotives recently built by the Pennsylvania.

New 2-8-4 Locomotives

Although the general preference of American railways, in the case of non-articulated steam locomotives for fast and heavy mixed-traffic service, is now the 4-8-4 wheel arrangement, certain lines still prefer the shorter wheelbase of the 2-8-4 type. The Chesapeake & Ohio Railway recently obtained from the American Locomotive Company 40 2-8-4 locomotives of an advanced design; this was developed originally from the same company's class "T-1" 2-10-4, built by the Lima Locomotive Works in 1930. Subsequent developments of the design were represented by 55 2-8-4s for the New York, Chicago & St. Louis Railroad, and 39 for the Pere Marquette Railway, built from 1934 onwards. Various improvements, suggested by experience with the two last-mentioned series, have been incorporated in the new Chesapeake & Ohio engines. For example, these have cast steel frames, which incorporate back cylinder heads, air-pump brackets, injector brackets, front decks, cradles,

guides and supports for reversing shafts, cold water pump supports and firebox bearers. Roller bearings also have been applied throughout engines and tenders. In each case, cylinders (two) are 26 in. \times 34 in., with 14-in. piston-valves, driving wheels are 5 ft. 9 in. dia.; evaporative heating surface, in a boiler of 7 ft. 2 in. dia., is 4,770 sq. ft., and superheating surface is 1,949 sq. ft. (total 6,719 sq. ft.); firegrate area is 90.3 sq. ft. (equipped with MB type automatic stoker and to burn bituminous coal); working pressure is 245 lb. per sq. in.; and tractive force, at 85 per cent. working pressure, is 69,350 lb., or 83,750 lb. with booster. Out of a total engine weight of 205 tons, 130 tons is available for adhesion; the 12-wheel tender, accommodating 30 tons of coal and 21,000 U.S. gal. of water, weighs 140 tons when two-thirds loaded. Total engine and tender wheelbase is 93 ft. 2 in.

BRAZIL

Leopoldina Railway

As a consequence of the difficulties imposed by the war, which has prevented the import of a variety of goods from Great Britain and the United States, the Leopoldina Railway has been unable to fulfil all the obligations which it undertook when the Brazilian Government granted it a loan of the equivalent of Cr. \$30,000,000 in August, 1939. The object of that loan was to enable the railway to undertake various improvements necessary for the efficient working of the line which could not be undertaken out of ordinary receipts. The programme presented for completion within four years included the purchase of new rails, rolling stock, locomotives, and workshops' machinery, but import difficulties intervened.

To meet the situation, a Decree-Law has been signed by the President of the Republic granting an extension of two years for the completion of the improvements undertaken by the railway, and providing for a revision of the programme which will enable works which can be carried out with materials obtainable in the country to be substituted for those which would depend on imported materials.

SWITZERLAND

Railway Accident

On May 13 a serious accident occurred at Wädenswil, on the Federal Railways main line from Zürich to Chur, when passenger train No. 3694, from Richterswil, ran violently into the rear of freight train No. 7750, which it should have passed at Wädenswil. The accident was caused by the rear end of the freight train having been left foul of the main line, outside the station signal limits. A postal employee was killed, and two others were injured; the damage to rolling stock was considerable.

Accelerated Services

On April 1 electric operation began on the Travers - Fleurier - St. Sulpice and Fleurier-Buttes lines of the Val de Travers Railway. As this company did not expect to receive until the autumn the electric railcars now on order, the Federal Railways management lent one of its "Red Arrow" railcars, and the Bern-Lötschberg-Simplon Railway loaned an electric locomotive, to enable electric working to be inaugurated. Electrification has resulted in a speeding-up of train services.

The Martigny-Orsières Railway has accelerated its services since the receipt of new railcars, one of which was briefly referred to in our August 18 issue.

Super-Railways Proposed for the U.S.A.

How the scheme could be financed

By J. W. Barriger*

THE goal of every business executive is to operate at capacity with selling prices so adjusted to costs as to produce earning power that represents an adequate return on the capital which created the enterprise. The railways as a whole have seldom been in that enviable position—or remained in it for long when such circumstances temporarily occurred. The industrial and military activity of a global war effort and this conflict's interference with competitive transport agencies have created extraordinary demands for rail service, which when fulfilled in 1942 and 1943 represented the greatest number of transport units ever produced within equal periods of time.

Railroad management has proved that it has the resourcefulness and the railway plant has the capacity to move traffic that is triple the depression lows and 50 per cent. greater than past peaks. This huge increase has been performed with moderate proportional increases in train miles and expenses.

A return to peace will remove many of the factors contributing to the present volume of business and at the same time will restore the competition of air, water, and highway services, all of which agencies will have been improved and expanded by the war. The principal component of its industrial effort has been the production of great numbers of improved ships, aeroplanes, and road motor vehicles, both for fighting and transport purposes in each case. *The New York Times* recently reported that 1944 aeroplane production, for example, would represent an expenditure of \$40,000,000,000, nearly double the investment in the railways after a century of development. The largest aeroplanes are propelled by 8,000 h.p. of motor capacity; the largest locomotives produce only 6,000 h.p.

The railways are now geared to maximum output. One may assume that it is their determination to minimise traffic declines after the war through application of sound commercial principles of service and pricing so that these carriers will at all times perform the substantial majority proportion of the nation's common carrier services. During post-war years of high levels of business activity, which all hope will prevail and not be the exception, the railways should surpass even present records of volume of service performed. The railways can always obtain their necessary share of the total business if their freight and passenger schedules are sufficiently fast and their selling prices, that is, rates, are competitively attractive. The post-war problem is wholly one of running freight and passenger trains on faster overall schedules and producing service at lower cost per unit. The basic factors in successful railway operation will continue to be speed and train load. If both of these can be advanced sufficiently, the competitive position of the railways will be secure.

"Super-railways" would embody the very highest and most ultra-modern standards of physical characteristics, that is, grades, curves, rail distance *versus* air line distance between intermediate points determining the route, standards of design of tracks, bridges, signals, shunting and communications facilities, freight, pas-

senger, and engine terminals, equipment and every other feature of the railway plant. These must be utilised generally throughout the primary main-line mileage of the United States so that freight and passenger schedules may be further speeded up, and train carrying capacities are notably increased to effect substantial further reductions in operating costs.

Quicker Services

Quicker freight and passenger services probably need not be sought through materially higher maximum velocities than those now attained by the fastest trains of both services, but all intermediate speed restricting conditions must be banished, and delays due to meeting and passing trains greatly reduced so that the average operating rate of through freight and passenger trains, over entire engine districts will closely approach the maximum one permissible. Grades on principal lines, except on mountain crossings, must also be reduced to such easy ascents that these maximum speeds can be maintained continuously by 1,200-ton passenger trains and 6,000-ton freight trains. Only in this way can future rates and fares produce the high train-mile earnings which alone will permit the property improvement necessary to hold and develop traffic in the face of the bitter rivalry of competitive transport agencies which will surely have been improved, strengthened, and multiplied by the industrial development caused by this war.

The somewhat indefinite term "appropriate horsepower" may be defined as the locomotive of the smallest horsepower necessary to move, in single-engine trains, an average day's traffic based on minimum frequency of dispatching and the operating speeds required by competitive conditions. The theoretically desirable "appropriate horsepower" for moving all traffic on minimum frequency, for heavy tonnage or heavy grades, would require an engine of impossible size and the upper limit must be established by such practical considerations as clearances, bridge and curve limitations, allowable drawbar-pull which can be transmitted by the draft gear and couplers, the length of sidings in single-track lines, the maximum length train which can be safely controlled by the conventional air brake equipment and the size of turntables, engine-house and shops.

Grades and Curves

Grades and curves are a principal ingredient of the railway problem because these introduce the increases in the operating costs and the speed limitations which together make railroad traffic vulnerable to external competition. While grades and curves, like death and taxes, will always remain, the more they can be reduced, the fewer difficulties the railway will have. In the long run, it is preferable to reduce, or eliminate, grades and curves, where economically feasible to do so and thus remove for all time the additional resistances which they interpose against train movement than it is to ease the burden of these handicaps by massing greater (locomotive) forces to combat them; as important as it is to do that when traffic lacks the density necessary to justify the invariably greater capital cost of the former superior alternative.

Within the decade after the present war

ends, competition will necessitate such fast and low cost operations that it will be imperative to develop the main lines so that their physical characteristics and facilities will permit 6,000-ton freight trains to be hauled by a single maximum-capacity locomotive at average speeds of between 35 and 50 m.p.h., except over high mountain crossings, which, however, must in many cases be materially revised and improved through use of long tunnels.

All component parts of the railway plant and equipment must be synchronized with this speed and weight of freight train operation. This will permit the important passenger-carrying lines to step up average speeds sufficiently to permit 70 m.p.h. schedules between all large cities. Daily trans-continental passenger service may have to be introduced to retain the long-haul interline passenger movement through the principal east-west gateways.

The present railway plant represents an investment substantially in excess of \$20,000,000,000. It will probably involve an expenditure of half again as much to convert these carriers into the intensively developed "mass production" transport machines which I visualize as "Super-railways," and ten years will be required for this transformation.

Financial Scheme

Capital is money used for productive purposes and either represents income withheld from present security holders for re-investment in the property, or is money obtained from new investors on the credit of the company. Credit, in turn, represents the faith which investors have that money which they entrust to an enterprise will be used in a manner that will produce an operating profit out of which reasonable rates of interest or dividends can regularly be paid, while reserves are being provided continuously to restore the service life worn out of capital assets.

Last year's net railway operating income was \$1,500,000,000. Unfortunately, this must be regarded as a wartime "wind-fall." One dare not predicate post-war railway development on a continuation of such earnings. However, if \$1,000,000,000 of sustained annual net railway operating income can be retained, through all post-war years, it, together with the "other income" derived from non-operating sources, will service a capitalisation reasonably commensurate with the investment which produced the American railway system. The resultant income available for leased-line rentals and fixed and contingent bond interest will provide a sufficient margin of safety for the payment of these charges to permit securities on which they were paid to sell around par. A balance of more than \$600,000,000 will remain after such disbursements to allow moderate dividend payments and provide over \$300,000,000 annually needed for re-investment in the property out of surplus earnings. This will represent one-third of the yearly total needed over a decade to produce "Super-railways."

A like amount will be derived from depreciation charges which are now mandatory on specified portions of the fixed plant and structures, as well as on rolling stock and locomotives. These funds provide cash for capital purposes in amounts offsetting the estimated service life lost through action of the elements and wear and tear of traffic on the units of property for which this deduction of cash is made through operating expense. Serial equipment trust certificates are usually amortised by using funds produced through these equipment depreciation charges and thereby gradually extinguish

* Extracts from a talk before the Railway Locomotive & Historical Society at Chicago

the debt incurred to buy some of the cars and locomotives against which these are currently accrued.

The development of the railway plant represents the larger capital requirement and also presents the principal financial questions. Over the next ten years, in excess of \$3,000,000,000 of new capital, in addition to the requirements for refunding maturing obligations, must be invested, in approximately equal proportions each year to supplement the funds provided by surplus earnings, and either depreciation charges or sales of equipment trust securities to be serviced by these allowances of future years. Although for the first few years, most of this last third of the total requirements will have to be raised through the sale of bonds, the financial benefits of the improvements being made thereby will so strengthen earning power and improve credit that financing by sale of stock thereafter should be feasible on a large scale. Acquisition of funds on this basis will be the final test and evidence of the success of "Super-railways."

Existing junior issues of bonds must sell around par before new ones will be bought by investors, but stable earning power of \$1,000,000,000 a year will soon restore the credit of the American railways and re-establish the value of their bonds. In due course, continuance of satisfactory earnings; that is, \$1,000,000,000 a year in post-war periods, with resultant freedom from the hazards of re-organization and a gradual increase in the number of companies restoring and maintaining dividends

will open up capital markets to the sale of new issues of railway bonds and stocks, and provide the final third of the annual \$1,000,000,000 capital requirement.

The unit costs of "Super-railways" will permit such competitively attractive fares, for Pullman as well as coach passengers, that these price advantages combined with service adequately reflecting public wishes and needs will give the railways increasing, rather than declining, passenger traffic over future decades. "Super-railways" will also permit these carriers to provide freight schedules representing 35 m.p.h. service on a basis of elapsed time from initial to final terminal, and yard shunting requirements will add a minimum number of hours to the road haul time. Train loads will approximate water cargoes in tonnage and direct movement costs will be of similar amounts. Highway freight transport will lose, rather than gain, in proportional commercial transportation importance when "Super-railways" recover the advantage of both price and speed and, of course, are fully supplemented by co-ordinated motor terminal and local services to the extent necessary.

The cost appears large, but represents only 50 per cent. of the present investment and it will be distributed over an adequate period of years to hold the annual capital requirements within limits that can be provided entirely from the industry's own revenues and private sources of new capital. Everything is relative; and the sum of \$10,000,000,000 required to provide

"Super-railways" is but a fraction of the sum that would be necessary to provide "Super roadways," waterways, and air-lines of much less capacity and aggregate public utility.

CENTRAL BRAZIL RAILWAY AND EMPLOYEES' HOUSING.—The Central Brazil Railway is to provide 1,000 dwellings for members of its staff. In addition, children's welfare centres are to be built in Rio de Janeiro, Lafayette and Bello Horizonte.

BRITISH POST-WAR FOREIGN TRADE.—Mr. Eric A. Johnston, President of the United States Chamber of Commerce, addressing recently the National Foreign Trade Council, said that the U.S.A. and many other countries of the world must raise their sights to what previously would have been considered fantastic heights. Before the war, British economists had told him that £20 in foreign trade was necessary for every inhabitant. £16 actual trade and £4 shipping and insurance. Today, Great Britain was in a vastly different position. She was no longer a creditor nation; she owed for goods purchased abroad during the war. Recently, he had heard conservative British business men estimate that they must do a 50 per cent. larger foreign trade if the nation were going to hold its own. They calculated £26 a person in actual trade, plus the previous £4 for shipping and insurance, a total of £30 for every inhabitant of Great Britain.

The Operation of Automatic Signals, London Transport

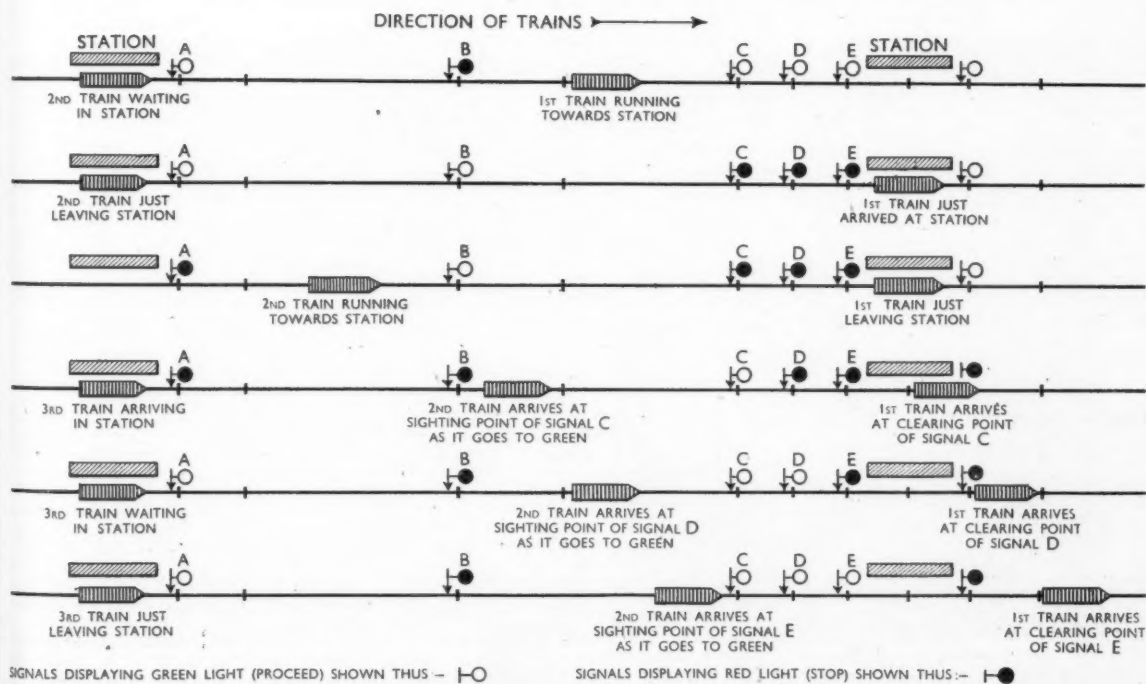


Diagram recently prepared by Mr. R. Dell, Signal Engineer, London Passenger Transport Board, to demonstrate the method of operation of the system of automatic signalling on the London Transport railways, which not only protects the trains, but also permits them to operate on close headways. The diagram indicates how the signals are cleared according to the various positions of the trains on the tracks. The three station-signals (home-signals), which clear one by one as the first train leaves the station, permit the following train to enter the station immediately it is clear

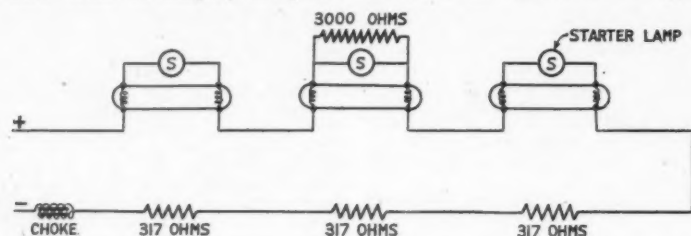
Fluorescent Lighting on Rolling Stock

A District Line carriage has been equipped experimentally and placed in public service

TO test the practicability of using fluorescent lighting on new rolling stock to be built after the war, an existing surface-stock carriage on the District Line of the London Passenger Transport Board has been equipped experimentally with this form of lighting, and, as we recorded briefly in our October 20 issue went into service between Ealing Broadway and Mansion House on October 13.

Although any post-war development of this kind would be designed to operate

20-watt tubes, each 2 ft. long, and equally spaced in four circuits of three down each side of the roof, between semi-circular metal boxes which serve to house the tube-holders and starting gear for each tube. The tubes are run three in series from a 600-volt line, and the normal running voltage is 55/65 across each tube; the remainder of the potential is absorbed in resistances and chokes mounted on a specially-built frame underneath the car seats. Immediately above the boxes and the tubes is a specially-



Typical series circuit for fluorescent lighting as adopted on the experimental car

from alternating-current supply generated on the train, the fluorescent lighting on this experimentally-equipped vehicle operates from the 600-volt direct-current traction supply. This factor has necessitated the use of somewhat complicated control gear, compared with that required for a.c. operation, but the result well illustrates the improvement in the quality of fluorescent lighting over that obtained with ordinary filament lamps. The lighting is steady and without glare or shadow, and gives the effect of a continuous band of light along the whole length of each side of the carriage. The colour is particularly pleasant, and gives a daylight effect. Among the advantages claimed are that every passenger has a good light wherever he sits. As will be noticed from the illustration opposite, this should prove of particular value to all passengers, both seated and standing, during peak hours, as no one passenger will obstruct the light for another.

The lighting equipment consists of 24

designed metal channel running the entire length of the vehicle on each side, which carries the whole of the wiring to individual tubes.

The efficiency of the fluorescent tubes is very high, the light output of each 20-watt tube being 700 lumens, thus giving an efficiency of 35 lumens a watt. With a direct-current scheme, however, much of this high efficiency is lost on account of the heat which has to be dissipated by the resistances, which would be unnecessary on an a.c. supply. Ignoring the power lost in resistances, the table below shows a comparison between the experimental car and a similar car equipped with standard 60-watt filament lamps:—

	No. of lamps per car	Total input, Watts	Total light output Lumens
Experimental car with fluorescent lighting ...	24	480	16,800
Standard car with filament lamps ...	35	2,100	18,900

Railways after the War

At a meeting of the London Section of the Permanent Way Institution on Saturday last, October 21, Major W. A. Willox read a fascinating Paper entitled "Railways After the War." He gave some striking instances of the enormous increases in engineering achievement and productive capacity which have taken place during the past five years, such as the examination for faults in steel by two women of quantities which in pre-war days would have required the services of 500 men over the same period. From such statistics he showed that vast plans of railway rehabilitation and improvement would be physically possible, should the desire be sufficiently widespread and intense. At the head of his list of desiderata for railway transport he placed reliability, comprising punctuality and safety. Both could be facilitated by the

widespread adoption of modern mechanical devices. Speed also was desirable, and by this he meant overall speed of both passenger and goods trains, and also of cross-country services, and not merely high speed on radial trunk services from the capital. Track improvements, such as deepening the ballast, were limited by the structure gauge of the country, and an increase in the latter would be a vast, although not impossible, enterprise. Major Willox felt that, unless well planned and determined efforts were made to effect such improvements, this country might actually be at a disadvantage as the result of the relatively limited war damage so far sustained, as those countries which had had their railway systems extensively destroyed would undoubtedly plan and build to modern standards in all respects. He expressed his faith in the desirability of achievement under a democracy, and making the utmost use

The accompanying diagram shows a typical series circuit as adopted on the experimental car. It will be noted that each tube is shunted by a "starter" which takes the form of a small lamp connected to a small bayonet cap lamp-holder. When voltage is applied initially, these lamps glow and open-circuit bi-metallic thermal strips inside the lamp, which form a switch and are normally closed. The circuit is inductive, due to the presence of a choke, and, when interrupted by the opening of the thermal contacts in the starter, a rise in potential is obtained, which is sufficient to start the discharge through the tubes.

To ensure that all tubes strike under low line voltage conditions, which frequently occur on a traction supply, a 3,000-ohm resistance is shunted across one of the starters in each circuit of three tubes, and this enables operation to be satisfactory down to a minimum of 450 volts.

The fact that the tubes are operated three in series necessitates a careful distribution, to ensure that the failure of a tube or the blowing of a fuse would not cause excessive loss of light. This has been achieved by wiring adjacent tubes in different circuits.

The use of direct current has an adverse effect on the tubes, as long operation on direct current causes the mercury vapour to move to one end of the tube, resulting in darkening at the other end, but this is immediately rectified by reversing the polarity, for which purpose a reversing switch is installed in the supply feeds, which allows the polarity of the whole circuit to be reversed at intervals as and when required.

The fluorescent tubes, together with the control gear and fittings, were supplied by the General Electric Co. Ltd., and were installed by the London Transport staff at the railway overhaul works.

The object of the experiment is to gain some experience with fluorescent lighting under traction conditions, and to ascertain the reaction of the public. An old vehicle has been used, which has not been designed specially to make the most of the new system of lighting.

It is too early yet to have tested public opinion, but, so far, the views expressed have been entirely favourable, and there are indications that this is not merely satisfaction at an improvement on war conditions, but appreciation of a distinct advance in carriage lighting method.

(See illustration on opposite page)

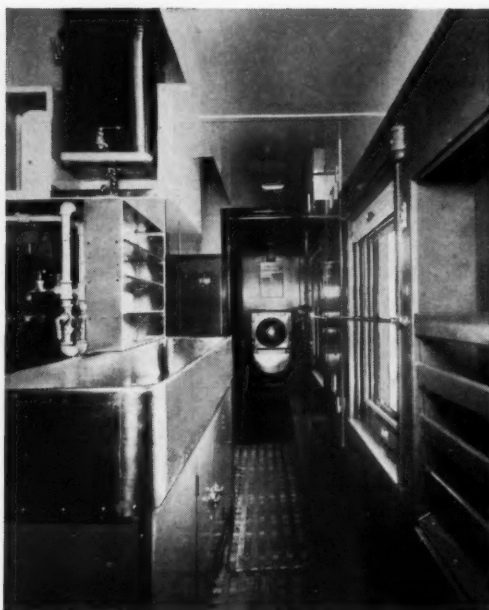
of private enterprise and individual initiative as the only lasting foundation. In particular, he made reference to the severe limitations imposed by the widespread private ownership of wagons in this country, as these vehicles were often without continuous brakes and therefore placed a limit of about 12 miles an hour on the speed of goods trains composed of them. This involved an inordinate amount of line user. Great Britain was unique among the industrial countries of the world in having such a system, and Major Willox hoped that it would be found possible to avoid perpetuating it after the war. At the same time, he hoped that it would be found possible to secure this objective by persuasion and reasoned argument rather than by arbitrary order, although in a democracy it was the function of Parliament to make the ultimate decision as to what constituted the greatest good for the greatest number.

Fluorescent Lighting on the Underground



Interior of a District Line surface stock carriage with fluorescent lighting which went into service between Ealing Broadway and Mansion House, London Passenger Transport Board, on October 13

A Modern Canadian Kitchen Car



Two views in the kitchen section of the dining car "Blomidon" of the Canadian Pacific Railway, to which reference was made in our issue of September 29, page 316. On the left is seen the fully-insulated range. On the right is the passage leading from the kitchen to the dining room, showing the sink where dishes are left for the dishwashers, after removal from the tables; the basin at the end of the passage is for the dining room staff. The "Blomidon" accommodates 40 persons, and is operated between Digby and Halifax on the Dominion Atlantic Railway, a wholly-owned subsidiary of the Canadian Pacific Railway

The Heat-Treatment of Rails in India

A simple and efficient process of treating the surface of wing rails in use on the North Western Railway, India

AN apparatus for the heat-treatment of rails has been installed recently in the signal shops of the North Western Railway, India. The process, which is stated to be both simple and efficient, so far has been confined to the wing rails on points and crossings. The Metallurgist of the railway has reported very favourably on rails which have been treated by the process.

An obsolete belt-driven planing machine with a table 2 ft. 8 in. wide and 26 ft. long has been adapted to give a travel-speed of 1 ft. in 4 min. 40 sec. The table has a range of travel of 24 ft.; on this table the rails to be treated are clamped, and travel under an oxy-acetylene flame, and subsequently a water-jet, attached to the tool-holder of the planing machine.

A 6-jet or 7-jet nozzle directs the oxy-acetylene flame on to the head of the rail as it travels slowly under the tool-holder. The head of the rail, after being heated, is quenched by a jet of cold water playing on it from thirteen $\frac{1}{4}$ -in. holes in the head of an inverted tee-shaped pipe. The holes in this 1-in. bore pipe are arranged so that the jet issues at an angle of 13 deg. from the vertical and the water is directed away from the flame. The water impinges on the head of the rail at a point 2 in. from the torch.

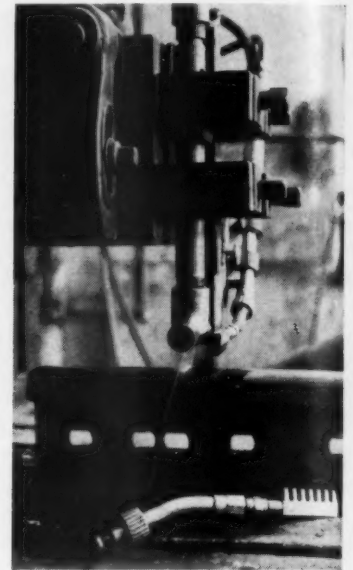
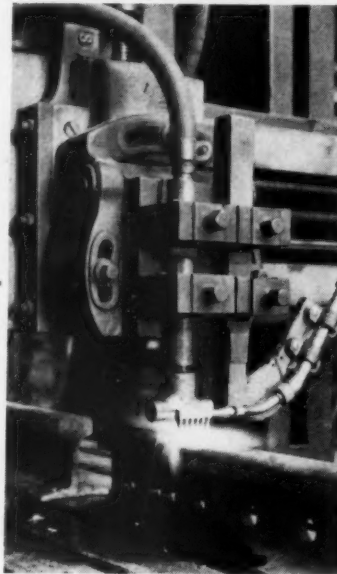
The rail immediately under the torch is heated to approximately 850°, and the same point on the head is quenched about 46 sec. after passing from under the flame. During that time, the heat generated by the 6 or 7 jets of flame has time to equalise over the surface of the head of the rail, so that the temperature at

which quenching takes place is about 800° C.

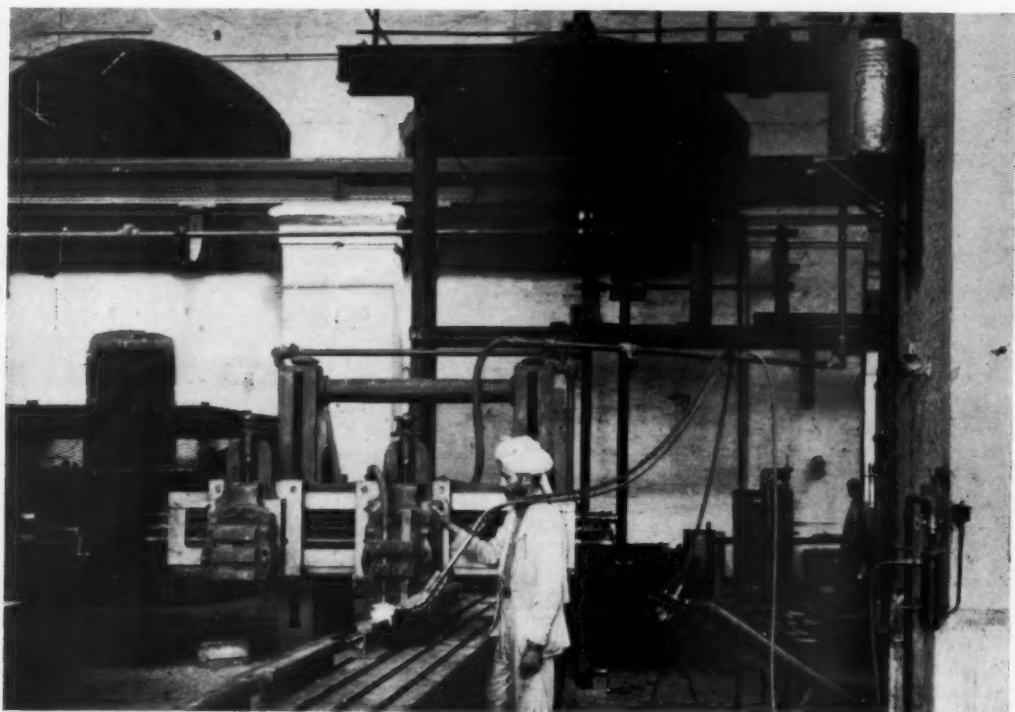
The depth of hardening is about

$\frac{3}{16}$ in.; the surface is sufficiently hard, yet not hard enough to produce flaking; the gradation from surface to centre is regular and gradual, and the structure throughout is reported to be excellent.

We are indebted to Mr. A. M. Sims, C.I.E., Chief Engineer, N.W.R.(I.) for the brief foregoing description of the apparatus.



Left, the torch and jet in action, and right, the torch nozzle and jet of water. Note how the latter is directed away from the torch. A seven-jet torch nozzle is lying by the foot of the rail



The apparatus showing the short lengths of rails on the table of the planing machine. Note the water cistern on the wall from which a constant head of water is delivered to the quenching jet

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RAILWAY NEWS SECTION

PERSONAL

The Board of Trade announces that Mr. Dalton has appointed Sir Charles Bruce-Gardner to be his Chief Executive for Industrial Reconversion. Sir Charles Bruce-Gardner has been released by the Minister of Aircraft Production; he has been for two years a member of the Council of the Minister of Aircraft Production and Controller of Labour Allocation & Supply in the Ministry, as well as Chairman of the Production Efficiency Board. Sir Charles Bruce-Gardner has served as a member of numerous important committees and other bodies, and on the boards of industrial companies.

In the Second Supplement to *The London Gazette* of October 17, 1944, it is recorded that the King has ordered that Brigadier (temporary) Bruce Gordon White, C.B.E., R.E., Director of Ports & Inland Water Transport at the War Office, be an additional Knight Commander of the Military Division of the Order of the British Empire, in recognition of distinguished services in connection with the landings in Normandy. The recipient of this honour is a Director of three railway-associated bus undertakings, namely, the Devon General Omnibus & Touring Co. Ltd., the Trent Motor Traction Co. Ltd., and the Yorkshire Traction Co. Ltd.

We regret to record the death on October 18, at the age of 63, of Major-General C. W. Macleod, C.B., C.M.G., D.S.O., Regional Transport Commissioner, North Western Region.

Mr. H. C. P. Cresswell, European Colonisation Manager, Canadian Pacific Railway, London, has been appointed Chief Commissioner, Department of Immigration & Colonisation, Canadian Pacific Railway, with headquarters in Montreal, in succession to Mr. J. N. K. Macalister, who has retired, but who will continue to act as consultant to the Colonisation Department.

FUNERAL OF MR. W. C. MOORE

The funeral of Mr. W. C. Moore, recently retired Chief Assistant to the Chief Electrical Engineer, Southern Railway, whose death was recorded in our October 13 issue, took place at Findon, near Worthing, on October 14. In addition to family mourners, the following were present:—

Chief Electrical Engineer's Department, Southern Railway: Messrs. J. R. Ward, Distribution Engineer; A. E. Roberts, Rolling Stock Engineer; S. B. Warder, New Works Assistant; H. G. Hockley, Assistant for General Purposes; D. E. Bailey and C. R. Wrigley, Technical Assistants; and E. G. Humfress (retired); English Electric Co. Ltd.: Mr. R. Howell; Taylor, Tunnicliffe & Co. Ltd.: Mr. M. J. Dark; Asea Electric Limited: Messrs. Y. Overgaard and D. S. Young; Bruce Peebles & Co. Ltd.: Mr. G. Henderson; and Pirelli-General Cable Works Limited: Mr. A. Norman.

Dr. Harry R. Ricardo, B.A., LL.D., F.R.S., who is President of the Institution of Mechanical Engineers for 1944-45, was educated at Rugby School, and at Cambridge University, where he was invited by Professor Bertram Hopkinson to assist in a series of researches on the internal-combustion engine. After he had received his B.A. degree, he continued at Cambridge to complete some of Professor Hopkinson's researches. In 1907 Dr. Ricardo joined his grandfather's firm of consulting engineers, Messrs. Rendel & Robertson (later Messrs.

of Laws in 1943 at the University of Birmingham he was described as "the high priest of the internal-combustion engine." Dr. Ricardo has acted as Consulting Engineer to the Air Ministry since 1918, and he was appointed Consulting Engineer to the Tank Department in 1941, in which year also he was appointed a member of the War Cabinet Engineering Advisory Committee. He frequently is called in for consultation by the Admiralty, and his firm has acted as consultant to numerous engineering undertakings at home and abroad. He is a member of the Fuel Research Board, and is Chairman of the Engine Sub-Committee of the Aeronautical Research Committee. Dr. Ricardo served on the council of the Royal Society from 1936 to 1938. In 1942 he was elected an Honorary Member of the American Society of Mechanical Engineers. Dr. Ricardo was elected a Member of the Institution of Mechanical Engineers in 1933. He has served on the council since 1937, and became a Vice-President in 1942. He is a member of the Coal & Gas Engines Research Committee. In 1933 he delivered the sixth Thomas Lowe Gray Lecture, entitled "High-Speed Diesel Engines for Marine Service." He has contributed several papers on the subject of internal-combustion engines to the *Proceedings*, and he prepared the report on the papers in group II, engine lubrication (internal-combustion engines), at the general discussion on lubrication and lubricants in 1937. It is ten years since an internal-combustion engine expert was President of the Institution; the last specialist in that province was Mr. Charles Day, who succeeded to the presidential chair in 1934.



Elliott

Dr. H. R. Ricardo

[& Fry

President, Institution of Mechanical Engineers, for 1944-45

Rendel, Palmer & Tritton). Three years later he started a small designing department; he dealt with a number of military problems, in particular with some concerning tanks. Subsequently he was asked to design, and, with the assistance of his firm, to organise, the production of more powerful engines designed for tanks. He also acted as Consulting Engineer to the Mechanical Warfare Department. During 1916 he commenced practising as an independent consulting engineer, with offices in London. A private company was formed in 1918, which built an experimental laboratory at Shoreham-by-Sea, Sussex. On its completion in 1919 Dr. Ricardo was appointed Technical Director to the company—Ricardo & Co., Engineers (1927), Ltd.—and he now holds the office of Chairman. He has continued research and development in connection with internal-combustion engines, and when he received the honorary degree of Doctor

At the annual general meeting of the British Standards Institution held on October 17, Lord Woolton was elected the first President of the Institution; Sir Percy Ashley, Vice-President; and Sir William Larke, Chairman of the General Council (in succession to Sir Percy Ashley).

Mr. H. H. Dyer, M.I.E.E., Electrical Assistant, Signal & Telegraph Engineer's Department, Watford, H.Q., L.M.S.R., who, as recorded in our October 20 issue, has been appointed Assistant Signal & Telegraph Engineer, is the elder son of an Old Reptonian, the late Mr. A. H. Dyer of Derby, and was himself educated at Derby School and Christ's College, Finchley. He received his technical education at Derby, Nottingham and Birmingham. He joined the Telegraph Department of the former Midland Railway at Derby, under Mr. J. Sayers, as an engineering apprentice in 1907, and after a period of training was appointed Technical Assistant. Mr. Dyer had over 20

years' outdoor experience, mainly in connection with electrical signalling and communications, on both new works and maintenance. During that time, he acted as Resident Engineer in charge of the re-signalling of the electrified lines between Bow Road and Barking. On the formation of an independent Signal & Telegraph Engineer's Department of the L.M.S.R., under Mr. A. F. Bound, in 1929, Mr. Dyer was appointed Assistant (Signals) at headquarters, Derby. He was made Development Assistant in 1931. In those positions he gained a wide experience of mechanical signalling; on appointment as Electrical Assistant in 1935, he was made responsible for both mechanical and electrical design, and he has served on several



Mr. H. H. Dyer

Appointed Assistant Signal & Telegraph Engineer, L.M.S.R.

committees of the British Standards Institution. Mr. Dyer was elected an Associate Member of the Institution of Electrical Engineers in 1919, and a Member in 1936. He was made an Associate Member of the Institution of Railway Signal Engineers in 1913, and a Member in 1923; he has been a Member of Council since 1929, and is at present Vice-President. He has contributed papers to the Institutions of Electrical and of Railway Signal Engineers.

INDIAN RAILWAY STAFF CHANGES

Mr. A. A. Phillips, V.D., Chief Controller of Railway Priorities, War Transport Department, was granted six months' leave, preparatory to retirement, as from April 20. Mr. Phillips was formerly on the N.W.R.

Mr. R. Bonar, Chief Mechanical Engineer, E.I.R., was granted six months' leave, preparatory to retirement, as from April 10.

Mr. P. N. H. Baker, Divisional Superintendent, Moradabad, E.I.R., has been granted 22 months' leave, preparatory to retirement, as from April 1.

Khan Bahadur K. M. Hassan has been confirmed permanently as Deputy General Manager (Personnel), E.I.R.

Mr. W. R. Bumstead has been appointed to officiate as Deputy Chief Engineer, Signals, N.W.R., as from May 26, in the absence on leave of Mr. J. N. Macmillan.

Mr. E. C. Cookson, B.Sc.(Eng.), A.C.G.I., A.M.Inst.C.E., Assistant to Chief Engineer, Paddington, Great Western Railway, who, as recorded in our October 13 issue, has been appointed Divisional Engineer, Newport, as from January 1 next, was educated at St. Paul's School, West Kensington, and afterwards at the City & Guilds Engineering College of the Imperial College of Science & Technology, South Kensington, where he graduated as an Associate of the City & Guilds of London Institute and B.Sc.(Eng.). In 1927-28 he was awarded a Miller Prize by the Institution of Civil Engineers for a paper on the reconstruction at Paddington Goods Station. Mr. Cookson entered the service of the Great



Mr. E. C. Cookson

Appointed Divisional Engineer, Newport, G.W.R.

Western Railway in 1923 in the New Works Department of the Chief Engineer's Office, and was engaged in the preparation of drawings in connection with various important works. Later he became Assistant Resident Engineer on constructional works at Newport goods and passenger stations, Cardiff Queen Street and Bute Road Stations, Swansea High Street Station, Briton Ferry hump yard, and other points. In 1925 he joined the staff of the Divisional Engineer at Gloucester and in 1926 returned to the New Works Department at Paddington. In February, 1929, he was appointed Assistant to the Divisional Engineer, Shrewsbury, and under him was responsible for the Morpeth Goods Depot alterations at Birkenhead. In July, 1933, he was appointed Assistant Divisional Engineer at Plymouth, and in January, 1935, was made Assistant Divisional Engineer, London Division. He became Divisional Engineer, Newport, in February, 1940, but did not take up this post, as he was on active service. On the formation of the transportation units of the Royal Engineers Supplementary Reserve, in 1925, Mr. Cookson was given a commission in a railway construction company, Royal Engineers. He was mobilised on September 1, 1939, in command of a railway construction company, and subsequently commanded a railway construction and maintenance group, with the rank of Lt.-Colonel. He was mentioned in dispatches, and, on return from

service overseas with the B.E.F., was released from the Army for special duties in the Chief Engineer's Office, in which he was appointed Assistant to the Chief Engineer in October, 1941.

Mr. M. G. R. Smith, B.Sc., A.M.Inst.C.E., Assistant Divisional Engineer, Paddington, Great Western Railway, who, as recorded in our October 13 issue, has been appointed Assistant to the Chief Engineer, Paddington, was educated at Clifton College and Bristol University and served a pupilage with the G.W.R. under two Chief Engineers, Mr. W. W. Grierson and Mr. J. C. Lloyd. In 1925 Mr. Smith was appointed a Junior Assistant and was employed on the construc-



Mr. M. G. R. Smith

Appointed Assistant to Chief Engineer, Paddington, G.W.R.

tion of lines in the Swansea District and on the reconstruction of Swansea High Street Station. In 1928 he was appointed Assistant in the New Works Drawing Office at Paddington, where he took an active part in the preparation of contracts and contract drawings for extensive Government schemes, namely, Bristol Temple Meads Station alterations and the quadrupling of the line between Olton and Rowington Junction. In November, 1930, he held the position of Acting Resident Engineer in connection with the latter work; and in May, 1931, he returned to London as Assistant to the Divisional Engineer, Paddington. In December, 1934, he was appointed Assistant Divisional Engineer, Cardiff, and in August, 1939, to the position which he now vacates. Mr. Smith held for some years a commission in the Supplementary Reserve, Royal Engineers, in the 152nd Railway Construction Company.

Mr. Wayne A. Johnston, Assistant Vice-President, Illinois Central System, has been appointed General Manager. Mr. F. R. Mays, previously Vice-President & General Manager, continues as Vice-President.

Mr. D. Richardson has been elected Chairman of the Standing Joint Committee of Road Hauliers' National Organizations, in succession to the late Mr. J. H. Turner.

TRANSPORT SERVICES AND THE WAR—265

Train Heating

Heating on all trains was restored on Monday last, October 23, instead of on November 1 as previously announced (see our September 29 issue, page 313).

A Heavy G.W.R. Traffic

Since the beginning of war up to June last, equipment and stores totalling 57,000 tons were conveyed by G.W.R. into one depot alone, in connection with the anti-U-boat campaign.

L.M.S.R. Evacuee Specials

From the beginning of July, no fewer than 623 special L.M.S.R. trains, conveying nearly half-a-million evacuees, left London (Euston and St. Pancras Stations) for the Midlands and the North.

L.N.E.R. and Fly-Bomb Traffic

Apart from any private or independent evacuations from London during the flying-bomb attacks, the L.N.E.R. carried a total of 106,978 women and children in 150 special trains from London stations to safer areas. Marylebone alone dealt with 84 special trains carrying 60,508 passengers. The same station handled the complete evacuation of a number of hospitals during the same period. The L.N.E.R. also brought into London, from various points in the North, 24,600 Anderson and Morrison shelters.

Civilian Air Raid Casualties in September

The Ministry of Home Security has announced the following figures of civilian casualties due to air raids in the United Kingdom during September:—

Killed (or missing believed killed)	170
Injured and detained in hospital	360

The casualties are classified as follow:—

	Men	Women	Under 16
Killed (or missing believed killed)	63	80	27
Injured and detained in hospital	130	194	36

Underestimating the Enemy's Strength

It is reported that, to facilitate the early abolition of the Ministry of Economic Warfare, other Departments have already taken over certain of that Ministry's functions and staff. (In view of its initials, M.E.W., the telegraphic address "Whiskers" was adopted.) In earlier stages of the war the unfortunate facility of this Ministry for interpreting statistics in an optimistic way became widely known as "wishful thinking." Both the Ministry's contention that Germany was rapidly approaching the limit of her oil resources and also that the Reichsbahn was inadequate and decrepit were controverted in these columns at the time, and subsequent events have proved abundantly the accuracy of our view that the M.E.W. was encouraging an underestimation of the enemy's strength. It seems that the daily press has reached similar conclusions and the following comment by John Carpenter in *The Evening News* of October 20 is not an unfair summary of the position, especially with regard to the personnel:—

"I have no tears to shed over the report that the Ministry of Economic Warfare is going to be wound up. I daresay that it has done some useful things in its five years or so; but it has said a great many silly things, too. It was the M.E.W., I think, which had the first performing rights in those noble words 'Hitler is short of oil.' In the good old days of the phoney war, when all we had to worry about was the ventilation in the Maginot Line, the M.E.W. was prepared at any moment to prove that

Hitler really was short of oil. Its staff used to consist in those days largely of the sort of young men whom the Americans call starry-eyed—eager, voluble fledglings from the universities, with economics degrees and eggshells sticking to them. Day by day they demonstrated (as if it needed demonstrating) that an economist with a set of trade statistics can prove anything. When they shut down in Berkeley Square the M.E.W. should leave a brass plate, 'Closed—owing to shortage of oil.'"

London Transport Winter Services

Winter bus, tram, and trolleybus schedules began on Wednesday, October 25, in the London area. To allow for the earlier movement of traffic, in consequence of the earlier blackout, evening peak-hour services begin at approximately 4.30 p.m. and continue until about 7.30 p.m.

Country bus services remain substantially unchanged, and the "curfew" services continue.

The Bus Curfew

The Ministry of War Transport has authorised country and coastal bus operators to run later buses, until 10 p.m. on weekdays and until 9.30 p.m. on Sundays. It is unlikely that full Sunday morning bus services will be resumed in the near future.

All town transport services in the North Midland Region are being extended by one hour to 10 p.m. as soon as operators can adjust their duty schedules. This was announced on October 13. In the North-Eastern Region, the manpower difficulties and shortage of vehicles may retard the introduction of later buses.

Dublin Tram Services Resumption

It was found possible to restore the tram services in Dublin on the Dalkey, Terenure, and Dartry routes on Sunday, October 1, a day earlier than had been announced (see our September 29 issue, page 313).

On Monday, September 25, the Great Northern Railway (Ireland) resumed its Hill of Howth tram services, with trams working between Sutton Station and the Hill of Howth, and between Howth Station and the Hill of Howth; accordingly, the temporary bus services between Sutton and Baily Post Office, and between Howth and Stella Maris, have been discontinued.

Number of Vehicles in Sweden

As we have recorded many times in these columns, the shortage of motor fuel and rubber tyres has caused a marked decline in motor traffic in Sweden during the war. The following table shows the number of licensed motor vehicles in Sweden for the five-year period 1939-43:—

Item	1939	1940	1941	1942	1943
Passenger cars	180,717	34,646	31,854	36,980	36,090
Buses	5,109	3,604	3,523	3,599	3,864
Lorries	63,028	43,084	38,998	38,957	37,801
Heavy motor cycles	48,711	22,840	6,640	6,401	—

Beyer-Garratt Locomotives on Bengal & Assam Railway

It is reported that numbers of locomotives of the Beyer-Garratt type recently arrived in India from England, and are being placed in service on the system east of the Brahmaputra of the Bengal & Assam Railway. They are of two types, 2-8-0 + 0-8-2 and 2-8-2 + 2-8-2, which were described and illustrated in our issue of August 25 last. Both have tractive efforts of 41,890 lb. at 85 per cent. boiler pressure, and they are

stated to be the most powerful metre-gauge locomotives in India today.

Swedish-German Air Route Closed

The air line between Sweden and Germany, operated by the Swedish Air Transport Company, was suspended after October 21.

West German Travel Ban

All German civilians living in West Germany are required, as from October 23, to be in possession of a special permit if they wish to travel by rail.

Travel to France

Now that a considerable part of France, including Paris, has been declared an "interior zone," civilians wishing to travel to that part of France no longer require military permits, but only exit permits and French visas. No sea transport for civilians is available, and the very limited amount of air transport is in practice confined to journeys on business of national importance.

Paris Metro Services

In our September 15 issue it was recorded that a limited service on the Paris Metro underground railway system had been resumed on September 11, but that, for the time being, trains would not run after 1 p.m. on Saturdays nor at any time on Sundays. It is now learned that a seven-day-a-week service has been begun, although it is not known how frequently trains are being run, nor whether any further stations have been reopened.

Consolidated Chinese Machine Shop

A consolidated machine shop for the Hunan-Kwangsi, Canton-Hankow, and Kweichow-Kwangsi Railways was placed in operation in May under the direction of a director of the Hunan-Kwangsi Railway Administration. The Chinese press reports that this machine shop is expected to handle all important repair work of the three railways.

The White Pass & Yukon Railway

It is rumoured in financial circles that negotiations are in progress for the sale of the White Pass & Yukon Railway to U.S.A. interests. The line is owned by a British Columbian company, and is in the same group as the Pacific & Arctic Railway & Navigation Company. At present the railway is leased to the U.S.A. Army in connection with the construction of the Alaska Highway and associated works.

Train-Service Reductions in Victoria

In June last the shortage of slack as well as of large coal forced the Victorian Commissioners of Railways to make further reductions in train services (see also our issue of January 28 last, page 84). Suburban services were cut by 10 per cent. during peak periods on weekdays (including Saturdays), and by 50 per cent. in off peak hours. Broadly, this meant that 13 peak trains were cancelled in the morning, and 10 in the evening; the decision as to which trains would be withdrawn was made after reference to special tallies of train loadings, which indicated those that could be cancelled with least public inconvenience.

Sunday trains were reduced to one to Melbourne on most lines in the mornings, and there were no morning trains from Melbourne. There was a half-hourly service only during afternoons and evenings, with last trains leaving Flinders Street about 10 p.m.

Goods train mileage had further to be restricted. Rigid control was required of wagon supply for general loading, livestock, and commodities country stations.

An improvement in supplies of slack

coal enabled the Commissioners to restore the normal service on suburban electrified lines on weekdays as from Monday, June 26. Modified Sunday restrictions were introduced on June 25, providing additional trains in the morning and after 10 p.m., but no improvement between 1 p.m. and 10 p.m. The Sunday service depends on assistance readily given by the State Electricity Commission, but it is stated that further improvement in the near future is unlikely.

According to *The Victorian Railways News Letter*, in spite of all that has been done continued short supplies of large coal prevent any relief at present so far as

steam trains are concerned. Until production improves, or rationing of other industries takes place, it is stated, no restoration can be expected.

Canadian-Built Locomotives for India

Of the 145 locomotives built in Canada for the Indian State Railways, to which frequent references have been made in our columns recently, 52 were reported to have arrived in India by September 13 last.

Goods Wagon Loadings in India

Goods wagon loadings of the Indian railways decreased by 0.52 per cent. on the broad gauge lines, and increased by 6.42 per cent. on the metre-gauge lines in May,

1944, compared with May, 1943. From April 1 to May 31, 1944, goods wagon loadings were lower by 2.23 per cent. on the broad-gauge railways, and higher by 6.88 per cent. on the metre-gauge railways.

Corn Transport Rates in Mexico

Under a Mexican Executive Decree of July 8, 1944, the Southern Pacific Railway of Mexico and other railways are authorised to collect the full amount of goods charges for the transport of corn. This rescinds the provision of the Decree of November 8, 1943, which required the railways to ship corn for the Federal Government at rates amounting to 50 per cent. of the ordinary tariff.



The railways of Holland at the time of the German occupation in May, 1940

Soviet Railway Transport in Wartime

By M. Kushnits

Communications are playing an even more important role in the present war than ever before, by reason of its exceptional manoeuvrability, especially on the Eastern Front. Soviet railways are giving every support to the daring operations of the advancing Russian armies, and courage, initiative, and resourcefulness of a high order are helping Soviet railwaymen to emerge victorious from many difficult situations. Despite destroyed depots and stations, demolished repair sheds and water towers, and ceaseless bombings, the train crews preserve their locomotives and rolling stock, deliver their goods according to schedule, and maintain constant communication between the interior of the Soviet Union and the Front.

The indexes for railway transport have been mounting steadily since the outbreak of hostilities. Wagon-loadings for the first quarter of the current year showed an increase of 31.8 per cent. over the corresponding period of last year. By June, 1944, the average turnaround time for a goods wagon had been reduced by 24 hours. As a result, nearly 2,500,000 extra tons of goods were transported during that month with the same number of vehicles. The traffic volume and carrying capacity were considerably boosted as a result of the increasing total load hauled by each train. This has been effected by using more powerful locomotives and doubling trains, where locomotives of two trains are either coupled in front, or one train with its locomotive is hooked up behind the other.

Considerable success has likewise been achieved by rolling stock repair crews. In May, 1944, they overhauled some 2,500 wagons more than in December, 1943. In the first six months of this year, 7,405 cars were captured from the enemy and were altered from the standard European gauge of 4 ft. 8½ in. to the Soviet gauge of 5 ft.

Good progress has been made by Soviet railwaymen in mobilising the internal resources of transport. In the past nine months an economy of 639,000,000 roubles worth of basic materials alone has been effected.

The work of railway transport depends to a large extent upon the skill of the personnel. Hundreds and thousands of new young workers who have joined the railway staffs during the war have rapidly advanced in proficiency under the guidance of experienced railwaymen, and nearly four-fifths of them were taught directly on the job. By the end of June, 1944, 64 per cent. of them were Stakhanovites.

The unprecedented offensive operations of the Red Army and its victories would have been impossible without wartime construction of new lines in record time. These include connecting railways, which were used to bring supplies to the Soviet divisions at Stalingrad; the Kislaia-Astrakhan railway which played such an important role on the north Caucasian front; the Obozerskaya-Saroka link with the Murmansk Railway, to replace part of the latter which was cut off by the Germans during the siege of Leningrad; the line which runs to the new coal deposits in the north; and the Kartali-Akmolinsk line, which brings coal from the Karaganda coalfields to the industrial enterprises of Magnitogorsk.

The Red Army has liberated many thousands of miles of railway from the German invaders, and more than

35,000 km. (21,750 miles) of German-wrecked track, 2,500 stations and sidings, and 70,000 bridges have been restored. Large bridges spanning the Rivers Don, Donets, Dnieper, Dniester, and Bug have been rebuilt. Telegraph lines have been restored over a distance of 33,000 km.

Railway Air Services

The first civilian internal air service from London since the outbreak of war will be opened shortly by Railway Air Services Limited. It will be to and from Liverpool, and the outward service will connect at Liverpool with an additional air service to Belfast. For the present, the service will be operated by four-engined De Havilland aircraft, taking 10 passengers. Accommodation for the general public is expected to be limited at first because of the requirements of the Air Ministry for priority passengers. The company hopes that, as aircraft and men become available, authority will be given for additional routes to be opened.

The following is the complete list of internal routes proposed by the British main-line railways under the comprehensive scheme to which we made editorial reference (with sketch maps) last week:—

SERVICES IN THE BRITISH ISLES

- A. London—Prestwick (Transatlantic base)
- B. London—Liverpool—Belfast
- C. London—Manchester—Glasgow
- D. London—Birmingham—Dublin
- E. London—Hull—Newcastle—Edinburgh—Aberdeen
- F. London—Cardiff—Swansea
- G. London—Southampton—Jersey
- H. London—Southampton—Guernsey
- I. London—Bristol—Plymouth—Lands End—Scilly Isles
- J. Liverpool—Belfast (Already working)
- K. Belfast—Glasgow (Already working)
- L. Liverpool—Dublin (Already working)
- M. Glasgow—Perth—Inverness—Kirkwall—Shetlands
- N. Thurso—Kirkwall
- O. Orkney Inter-Isle Service
- P. Inverness—Kirkwall—Shetlands (Already working)
- Q. Aberdeen—Inverness—Stornoway
- R. Glasgow—Campbeltown—Islay (Already working)
- S. Glasgow—Tiree—S. Uist—Benbecula—N. Uist—Stornoway (Already working)
- T. Liverpool—Isle of Man (Already working)
- U. Manchester—Isle of Man
- V. Blackpool—Isle of Man
- W. Carlisle—Isle of Man
- X. Glasgow—Isle of Man
- Y. Belfast—Isle of Man
- Z. Lands End—Scilly Isles
- AA. Brighton—Isle of Wight—Southampton—Bristol—Birmingham—Manchester—Liverpool
- BB. Brighton—Isle of Wight—Bournemouth—Bristol—Cardiff

The European network is planned to comprise the following services:—

SERVICES TO PLACES IN EUROPE

First Stage

- 1. London—Glasgow—Stornoway—Iceland
- 2. London—Newcastle—Oslo—Stockholm—Helsinki
- 3. London—Amsterdam—Berlin
- 4. London—Rotterdam—Copenhagen—Stockholm
- 5. London—Berlin—Warsaw—Moscow
- 6. London—Brussels—Cologne
- 7. London—Brussels—Nuremberg—Prague—Vienna—Budapest—Bucharest—Istanbul
- 8. London—Basle—Geneva
- 9. London—Milan—Belgrade—Sofia—Athens
- 10. London—Paris—Milan—Rome
- 11. London—Paris—Marseilles
- 12. London—Paris—Bordeaux—Madrid—Lisbon
- 12a. London—Paris

Second Stage

- 13. London—Antwerp—Hamburg
- 14. London—Lyons—Cannes
- 15. London—Deauville
- 16. London—Dinard
- 17. London—Knocke
- 18. London—Le Touquet
- 19. Manchester—London—Lille
- 20. London—Ostend
- 21. London—Engadine
- 22. London—Bernese Oberland
- 23. London—Lucerne
- 24. London—Biarritz
- 25. London—Paris
- 26. London—Brussels
- 27. London—Amsterdam

Meanwhile, the first direct air service

(20,500 miles), carrying 250,000 km. (155,000 miles) of wire. Railwaymen throughout the U.S.S.R. are making an all-out effort to rehabilitate railway transport in the liberated districts. Trains are carrying building materials, tools, and equipment to the stricken areas from Siberia and the Far East, on the Perm, Tashkent, and other lines. Soviet railway transport is truly the right hand of the Red Army.

that has ever operated between this country and Spain began on Monday last, October 23, when a route to Madrid was opened. American two-engined Dakotas are being used. When in full operation the service will run three times a week. In a few weeks the British Overseas Airways Corporation, which is operating the new service, proposes to cease using the present terminal in this country as a base, and will transfer its land plane services to a new air port in the south of England.

Alaska Railroad

Alco-G.E. diesel locomotives have been placed in service on the line of the Alaska Railway extending from Anchorage to Whittier, a new deep-water terminus at the head of Prince William Sound. This port is so new that it does not appear on any maps of the territory which are now available. Its construction was undertaken primarily for reasons of military security because the port of Seward is much more exposed to attack. As a result, however, of the construction of the railway branch line to it, the rates, times, and distances for shipments moving to interior Alaskan towns have been reduced; the total distance to interior points has been reduced about 52 miles.

The division over which the diesel locomotives are operating is 62½ miles in length, all but 14 miles of which is a part of the main line extending from Seward to Anchorage. The 14-mile cutoff between Whittier and Portage includes two tunnels of 13,090 ft. and 4,910 ft. in length, respectively. The selection of diesel locomotives for working over this cutoff was influenced by the fact that, without the installation of very expensive forced-ventilating systems, the steam-powered train headway through the longer tunnel would have had to be about two hours, to allow excessive concentrations of gases to dissipate themselves.

Two 1,000-h.p. diesel locomotives have been introduced so far, and they are run as a pair handling trains of up to 2,250 tons. The train length with steam power was limited to about 25 vehicles; the diesels handle about 50. Colonel Otto F. Ohlson, General Manager of the railway, which has remained in civilian hands throughout the war, has stated that, in addition to their advantages for use through tunnels, "the operating costs on the diesels will be less than steam engines and the trains between Anchorage and Whittier will make the run without the stops for water, and for cleaning the firebox, which were necessary when steam locomotives were used."

Although the railway has been managed by civilians during the war, the manpower situation made it necessary for the U.S.A. War Department to lend assistance by sending the 714th Railway Operating Battalion to strengthen the maintenance and operating forces required in handling the greatly-increased wartime traffic load of the railway.

Staff and Labour Matters

Wages Boards for Catering Industry

The Catering Wages Commission has given notice of its intention, to recommend the establishment of a wages board in respect of workers employed in unlicensed non-residential places of refreshment, and central catering establishments, or by catering contractors. Exclusions from the scope of the proposed board are, residential catering establishments such as hotels, boarding houses, hostels and holiday camps, hospitals and orphanages, schools and colleges, catering carried on by railway companies, theatres and music-halls where catering is carried on by the management, undertakings carried on directly by the Crown or a local authority, and industrial or staff canteens covered by the Wages Board (Industrial and Staff Canteen Undertakings) Order, which has been made already.

Travelling Parcel Porters

A decision by the Chairman of the Railway Staff National Tribunal has recently been published by the special joint committee on machinery of negotiation for railway staff on a claim of the National Union of Railwaymen that parcel porters who travel on trains in connection with parcels traffic, should be re-graded as passenger guards and receive the rates of pay and conditions of service applicable to passenger guards. The claim was presented to the chairman of the tribunal by Mr. J. Benstead, representing the National Union of Railwaymen; and Mr. R. Burgoyne, represented the railway companies. The memorandum of agreement as to rates of pay and conditions of service of the adult male staff employed in the conciliation grades on the railways of Great Britain, dated March 20, 1920, provided that the grade of "sorting guard (employed on trains)" be eliminated and absorbed in the standard grade of passenger guard.

It was contended by the National Union of Railwaymen that the parcel porters covered by the claim, are performing the same duties as were performed by sorting guards (employed on trains), the grade eliminated and absorbed into the standard grade of passenger guard by the above-mentioned memorandum of agreement; that the parcel porters in question, although they travel and work on the trains, are regarded as non-trainmen by the companies and do not get the conditions of trainmen; that the work of these men is essential to the working of the trains and is undertaken by guards when parcel porters are not employed on the trains; that in certain cases where parcel porters employed on trains carry guard's equipment and assisting the guard in the general working of the train, they have been re-graded as porter guards; and that parcel porters employed on trains are acting in the capacity of sorting guards (employed on trains) and should be graded as passenger guards.

It was contended by the companies that the duties of the parcel porters covered by the claim are comparable with those performed before the memorandum of agreement dated March 20, 1920, by travelling porters (a grade eliminated by the agreement and absorbed into the standard grade of parcel porter), and not with those of sorting guards; that the duties of the men to whom the claim relates are similar to the duties of parcel porters at stations, and the fact that these duties are performed on trains instead of on platforms, does not constitute justification for re-grading those who perform them as passenger guards; that while pas-

senger guards have to perform a certain amount of sorting of parcels in the course of their duties, it is not this work which justifies the higher pay of the guard but his responsibilities in connection with the train working; and that if a parcel porter, qualified as a guard, and performed the duties of a guard, he would not be affected by the claim as he would be graded as a porter guard.

The Chairman found against the claim.

Payment of Wages during Sickness

A decision by the Chairman of the Railway Staff National Tribunal has been published recently on the question whether the following claim of the National Union of Railwaymen is eligible for the agenda of the Railway Staff National Council: "That all railway employees should receive full wages for three months and half wages for a further three months during sickness." The issue to be decided by the Chairman of the tribunal is one of interpretation of the memorandum of agreement known as the machinery of negotiation for railway staff.

The decision states that the claim by the union is intended to cover all grades embraced within the machinery of negotiation for railway staff. The union draws attention to the fact that Railway Executive Committee circular letter No. 1786, dated April 3, 1919, contains the following provisions relating to the guaranteed day and the guaranteed week:—

(I) Guaranteed day.

In the case of traffic and engineering department grades, except locomotive and trainmen and men coming within the scope of the 47-hour week, in the event of a man being available for duty on any weekday he shall be guaranteed a day's pay. Exceptional cases where guaranteed day should not apply are:—

- (a) Men working a short day for their own convenience.
- (b) Men coming late to duty.

In the case of locomotivesmen, no man to be paid less than a standard day's pay for each time of signing on duty except as stated below:—

- (a) Men working a short day for their own convenience, or illness.
- (b) Men coming late on duty through their own fault to receive payment for the actual hours worked.

(II) Guaranteed week.

The standard week's work is to consist of 48 hours. The standard week's wages exclusive of any payment for overtime or Sunday duty to be guaranteed to all employees who are available for duty throughout the week. The union's claim is designed to vary the above provisions so as to provide for payment in respect of sickness periods.

It was contended by the union that the claim is appropriate for consideration by the Railway Staff National Council having regard to the terms of paragraph 3 and of paragraph 40, Appendix, Part III, of the memorandum of agreement, dated February 26, 1935, relating to the machinery of negotiation for railway staff, which, *inter alia*, provide that matters for discussion or negotiation through this machinery include "any proposal to vary a national agreement"; that changing circumstances may result in railway employees seeking improvements in their conditions of service, which may involve a variation of or addition to the existing standard conditions; that the machinery of negotiation might be deemed to have failed to fulfil its pur-

pose if matters for negotiation were limited to existing standard conditions of service; and that having regard to the above-mentioned provision in the memorandum of agreement, the item in respect of payment during sickness periods is eligible for the agenda of the Railway Staff National Council.

It was contended by the railway companies that the union's claim does not constitute a variation of the provisions of the national agreements in relation to the guaranteed day or the guaranteed week, but the imposition on such provisions of an altogether new and additional provision; that payment of wages during sickness is not a standard condition of service within the scope of the national agreements listed in Part VII of the Appendix to the machinery of negotiation for railway staff, or subsequently listed by consent of the parties to these agreements; that the question whether wages should be paid during sickness, or the extent to which wages should be paid during sickness, is a question of management, and accordingly excluded from the matters for discussion or negotiation through the machinery of negotiation by virtue of the provisions of paragraph 4 of the memorandum of agreement; that the terms of paragraph 3 of the memorandum of agreement providing that matters for discussion or negotiation through the machinery shall include any proposal to vary a national agreement, mean, any proposal to vary a national agreement in regard to the standard conditions specified in the paragraph, and not any proposal to vary conditions of service; and that while the machinery is thus necessarily limited, there is full opportunity outside the machinery for the consideration of any question which does not constitute a standard condition of service.

The Chairman in his decision states that the words "within the scope of the national agreements" used in paragraph 3(i) of the machinery of negotiation for railway staff, clearly imply some limitation upon the matters which may be discussed under or negotiated through the machinery referred to. If, however, the contentions of the union were accepted, it would be difficult to imagine any matter which could not be put forward under the machinery for discussion or negotiation.

The Chairman finds that the item referred to in the claim of the National Union of Railwaymen does not constitute an item eligible for the agenda of the Railway Staff National Council.

Questions in Parliament

Railways and Collective Bargaining

Mr. G. Le M. Mander (Wolverhampton East—Lib.) on October 12 asked the Minister of Labour the present position as to the recognition by the railway companies of collective bargaining for certain grades of their employees; and whether the decision of his Ministry had been made.

Mr. Ernest Bevin (Minister of Labour): My department is awaiting information from the parties concerned which would enable it to deal with the suggestion that a certificate should be given as to the extent to which the Railway Clerks' Association represent the grades in question.

Mr. Mander: Am I to understand that neither side has yet sent in its evidence?

Mr. Bevin: That is so.

Mr. Alexander Walkden (Bristol, South—Lab.): Is the Minister aware that a difficulty has arisen from the fact that the railway companies' representatives have run

away from the undertaking that they gave to this House?

Mr. Bevin: I am not aware of that. My duty is to hear the evidence, and then if satisfied to give the certificate.

Mr. Walkden: If I furnish the evidence will the Minister consider it?

Mr. Bevin: I will look into it.

Mr. G. L. M. Mander (Wolverhampton, East—Lib.) on October 19, asked the Minister of Labour if he had received from the parties concerned their representations concerning the recognition by the railway companies of collective bargaining for certain grades of their employees.

Mr. Bevin: No, Sir.

Mr. Mander: Did not the trade union send in their representations as far back as July?

Mr. Bevin: It is not quite so simple as that. I understand that there is a little dispute as to what was actually agreed, and I am seeing the parties at the earliest opportunity.

Mr. Mander: Are the railway companies going back on the pledge they then gave?

Mr. Bevin: There is no suggestion of anybody going back, but sometimes two persons, even in this House, say things to one another, and afterwards differ as to what they have said.

Heating of Trains

Mr. Rhys Davies (Westhoughton—Lab.) on October 18 asked the Parliamentary Secretary, Ministry of War Transport, why, in view of the fact that the amount of extra coal consumed would be infinitesimal, long distance passenger trains were not heated, not even those travelling in the colder parts of the country.

Mr. P. J. Noel-Baker (Parliamentary Secretary, Ministry of War Transport): Long distance night trains and troop trains have been heated since September 25. Other trains will be heated as from Monday next.

Mr. Rhys Davies: Will the Minister bear in mind that it takes only 3 lb. extra coal to heat a passenger train running one mile; and will he call a halt in the punitive propensities of his Department against the travelling public?

Mr. Noel-Baker: It is not that. We have to try to help the Minister of Fuel & Power as much as we can.

Protective Coverings on Train Windows

Mr. Roston Duckworth (Manchester, Moss Side—C.) on October 13 asked the Parliamentary Secretary, Ministry of War Transport, whether he was aware that with the complete covering of train windows with material to avoid glass splinters in many main-line trains, it was impossible for passengers at night to see whether they had arrived at a station; and whether, in view of the danger of accident, he would instruct the railway companies that a small piece of the material in each window should be cut out so that travellers could see where they are.

Mr. P. J. Noel-Baker (Parliamentary Secretary, Ministry of War Transport) wrote in reply: I am making enquiries and will let Mr. Duckworth know the result.

Railway Technical Staff

Mr. Alexander G. Walkden (Bristol, South—Lab.) on October 17 asked the Parliamentary Secretary, Ministry of War Transport, whether he would state the total number of technical staff employed on the railways of Great Britain from the latest returns rendered to the Ministry of Transport by the various railway companies, including the L.P.T.B.

Mr. Noel-Baker in a written answer

stated: The latest returns from the various railway companies and the London Passenger Transport Board show that on March 13, 1943, 3,701 male technical staff were employed. This number does not include certain technical staff who are in receipt of salaries of £500 per annum or more. I am informed that on November 9 last, the total number of technical staff, including those who receive salaries of £500 a year or more, was approximately 4,300.

Illegal Possession of Stores

Mr. D. R. Grenfell (Gower—Lab.) on October 17 asked the Secretary of State for War whether he had received the evidence of the G.W.R. police at the Cardiff Docks concerning the case of certain officers who were apprehended recently in an Army utility car leaving the docks and containing stores which had been taken from a dock warehouse and placed in the car for removal; whether he would state the value of the goods found illegally in their possession; what penalty was proposed to be administered; and whether the G.W.R. officials had been authorised to report all cases of delinquency whether by officers or rankers.

Sir James Grigg (Secretary of State for War) in a written answer stated: Inquiries have failed to reveal any recent incident of this kind. The answer to the last part of the question is, yes, Sir.

Sleepers for Wounded Service Men

Miss Irene Ward (Wallsend—C.) on October 18 asked the Parliamentary Secretary, Ministry of War Transport, in view of the overcrowded condition of trains, whether he could arrange for sleepers for wounded service men and women travelling home on sick leave or for discharge.

Mr. Noel-Baker stated in a written answer: Under arrangements which are already in force, seats on trains can be reserved for wounded service men and women travelling from hospital to their homes. These arrangements, I understand, are working well.

Transport for Deceased Service Men

Major Sir Goronwy Owen (Carnarvon—Lib.) on October 18 asked the Secretary of State for Air, whether he was aware that inconvenience, expense and distress were caused to families and relatives of deceased airmen owing to the uncertainty of the times of arrival of the bodies at the arranged railway station; and if he would detail in future an escort to accompany the coffin to its destination.

Sir Archibald Sinclair (Secretary of State for Air) in a written answer stated: I sympathise with Sir G. Owen's anxiety in this matter, but I regret that the shortage of manpower precludes the provision of escorts. Difficulties due mainly to heavy railway demands undoubtedly do occur in isolated cases. These always are investigated, but I have no evidence of any general complaint. Careful arrangements are made in co-operation with the railway companies to ensure transport as rapidly as present circumstances permit, and to keep relatives informed as closely as possible of the expected time of arrival. If Sir G. Owen has a particular case in mind, I will gladly look into it.

Major Sir Goronwy Owen (Carnarvon—Lib.) on October 18 also asked the First Lord of the Admiralty, whether he was aware that inconvenience, expense and distress are caused to families and relatives of deceased naval personnel owing to the uncertainty of the times of arrival

of the bodies at the arranged railway station; and if he would detail in future, an escort to accompany the coffin to its destination.

Mr. A. V. Alexander (First Lord of the Admiralty) stated in a written answer: Every effort is made to give to relatives arranging the private burial of naval personnel ample notice of the expected time of arrival of the body at the railway station, and the expense of conveyance, not only by rail but from the station to the home of the deceased or the place of interment, is met from naval funds. Very few complaints about these arrangements have reached the Admiralty. The shortage of manpower would make it impossible to provide an escort for the coffin, and in any case it is not clear that an escort could prevent any inconvenience or distress should the coffin fail to arrive at the expected time.

Government Railways in Africa

Colonel A. M. Lyons (Leicester East—C.) on October 11 asked the Secretary of State for the Colonies, whether the various Government railways in the African Territories were co-operating financially and otherwise with local airway developments and with road transport and bus companies as was now being done elsewhere; and if not, would he urge them to do so as soon as possible to avoid future complications.

Colonel Oliver Stanley (Secretary of State for the Colonies): None of the Government railways in the African Territories for which the Colonial Office is responsible, at present participates financially in local airway development, although some Government railways operate road transport services. I agree entirely with Colonel Lyons that the closest co-ordination of all transport activities is desirable. I know that the Colonial Governments share that view, but I will again bring the point to their attention.

Ethiopian Railway

Mr. J. B. Hynd (Sheffield, Attercliffe—Lab.) on October 4 asked the Secretary of State for Foreign Affairs, whether in view of the fact that the Anglo-Ethiopian Agreement, 1942, had terminated, the Ethiopian railway, which, for the period of the agreement only, was placed under British military control, had now been restored to Ethiopian control; and whether British troops had vacated the reserved areas which they occupied under the 1942 Agreement.

Mr. Anthony Eden (Secretary of State for Foreign Affairs): In view of the negotiations for a fresh agreement now pending, the Ethiopian Government have agreed to maintain the *status quo* in both respects for a further period.

Post-War Road Safety

Mr. Alfred Edwards (Middlesbrough East—Lab.) on October 11 asked the Parliamentary Secretary, Ministry of War Transport, whether he had considered the ever-increasing rate of road accidents; and whether, in view of the likelihood of a more intensive road traffic after the end of the war in Europe, he would devise measures to reduce this heavy toll of life.

Mr. Noel-Baker in a written answer stated: Yes, Sir. The Committee on Road Safety are hoping to submit shortly an interim report to the Minister of War Transport on the measures which they consider necessary to deal with the grave problem of accidents on the roads in the specially dangerous period which will follow the end of the European war.

Mr. E. W. Salt (Birmingham, Yardley—C.) on October 4 asked the Parliamentary Secretary, Ministry of War Transport, what scientific research was being conducted at

present by or on behalf of his Ministry regarding traffic movements and safety on roads; what was the present total expenditure on road research of all kinds; and what fields were covered by such expenditure.

Mr. Noel-Baker: It is estimated that during the current year the work of scientific research on road problems, in which my Ministry receive much assistance from the Department of Scientific & Industrial Research, will cost approximately a sum of £43,000. I am sending Mr. Salt detailed information about the field which it covers; he will, I am sure, understand why it is mainly devoted to finding ways in which the war effort may be served. I hope that after the war we may embark on a much larger programme of research, and that effort will then be directed principally to problems of traffic movement and safety on the roads. I am now considering the organisation of this post-war work with the Department of Scientific & Industrial Research.

Captain Sir William Brass (Clitheroe—C.): Will they take into consideration after the war the very slippery surface of the London roads, and try to prevent this condition.

Mr. Noel-Baker: Yes, sir. The subject of non-skid surfaces is one of those that will come first.

War Transport Controls

Major B. A. J. Peto (Birmingham, King's Norton—C.) on October 18 asked the Parliamentary Secretary, Ministry of War Transport, whether he had compiled a list of orders and restrictions which could now be removed safely and so benefit public liberties.

Mr. Noel-Baker: As the Prime Minister said in answer to a question by Lt.-Colonel A. Dower (Penrith & Cockermouth—C.) on October 3, the question of revoking orders and regulations made under emergency powers is kept under constant review. A substantial number of the orders made by the Minister of War Transport has been revoked already, and others will be revoked as soon as the reasons for which they were made no longer hold good.

Sir Leonard Lyle (Bournemouth—C.) on October 18 asked the Parliamentary Secretary, Minister of War Transport, whether his plans for removing unnecessary controls and restrictions after the cessation of hostilities in Europe were yet complete; and whether he could make any interim statement.

Mr. Noel-Baker: The Minister of War Transport will be guided by the general policy of the Government in removing restrictions or controls when the public interest no longer requires that they should be maintained.

Sir L. Lyle: Will the Minister kindly make it known to his staff, and to everybody else he can, that lip-service to freedom is not enough?

Mr. Noel-Baker: My staff are working always at this subject, but I would like to assure Sir Leonard that although there is a shortage of labour, equipment and vehicles, many of the so-called restrictions mean, in fact, a much better service and a much more fairly distributed service.

Parliamentary Notes

L.M.S.R. Bills

When the London Midland & Scottish Railway Bill and the London Midland & Scottish Railway (Canals) Bill came before the House of Commons on October 19, objection was raised by several members and the report stage was deferred.

Notes and News

Official Agencies.—An established firm of engineers manufacturing railway transport equipment requires Overseas Agencies. See our Official Notices, page 415.

Assistant Accountant Required.—An assistant accountant is required by the Nigerian Government Railway for one tour of 12 to 24 months with possible permanency. For details see our Official Notices on page 415.

Argentine Exports.—Argentine exports for the first nine months of 1944, excluding bullion, amounted to 4,634,000 tons, valued at 1,744,533,000 pesos, compared with 3,708,000 tons and 1,515,074,000 pesos for the corresponding period of 1943.

Madras Railway Annuities.—In accordance with the provisions of the Madras Railway Annuities Act, 1908, it is notified that on October 5, 1944, a total sum of £6,470,311 was invested for the purpose of providing a sinking fund in respect of Annuities Class "B."

Eire Transport Bill.—The report stage of the Eire Transport Bill in the Dail was concluded on October 18, and the fifth stage was passed on October 19 by 66 votes to 33. Several amendments have been agreed to, mostly for making clear points previously regarded as doubtful. An unofficial suggestion that hotels at present operated by railways should be taken over by the Tourist Board was not accepted.

Manchester Underground Scheme.—Proposals made by the L.N.E.R. and L.M.S.R. for an underground railway system in Manchester, and for the electrification of various existing surface railways, have been considered at a joint meeting of the Post-War Reconstruction, the Town Planning, and the Transport Committees, of the Manchester City Council. The underground railway system would involve a capital expenditure of approximately £38,000,000, and it was decided that this would not be justified, as the underground railway system would not relieve congestion, and an adequate return on the expenditure could not be expected. With regard to the electrification of existing surface railways, it was decided to meet representatives of the railway companies for further discussion.

Institution of Civil Engineers.—At the opening meeting of the 1944-45 session, on November 7, Mr. F. E. Wentworth-Sheilds, O.B.E. (as already announced) will deliver his presidential address. Ordinary meetings during the first half of the session will include one on November 28, when Mr. A. Shaw Maclaren, M.A., A.M.Inst.C.E., will give a paper on "The Design of Land Airports for Medium and Long Distance Civil Air Transport." On November 21, Mr. Hugh O'Neill will give a paper on "Metallurgical Studies of Rails" before the Railway Engineering Division, and on January 16, 1945, Mr. F. H. D. Page, O.B.E., M.Inst.C.E., will give one before that division on "Railway Signalling for the Civil Engineer." Papers before the Road Engineering Division will include one on November 14 on "The Basic Principles of Soil Compaction and their Application," by Mr. A. H. D. Markwick, M.Sc., M.Inst.C.E. The first meeting of the new Works Construction Division (see paragraph, page 415) will be held on January 2, 1945, when Lt.-Colonel C. M. Norrie, D.S.O., B.Sc., M.Inst.C.E., will open a discussion on the report on "The Organisation of Civil Engineering Work," recently prepared by the Institution; and the first meeting

of the Maritime Engineering Division will be held on February 13, 1945, when Mr. A. L. Harvey, M.C., B.A., M.Inst.C.E., will present a paper on "Two New Quays at Tyne Dock, South Shields."

A.E.C. Pocket & Pad Diaries.—A.E.C. Diaries will again be available, for 1945. They can be supplied only to those firms and individuals who have received copies in past years. Requests for diaries must be accompanied by payment of 1d. for

British and Irish Railway Stocks and Shares

Stocks	Highest 1943	Lowest 1943	Prices	
			Oct. 24, 1944	Rise/ Fall
G.W.R.				
Cons. Ord. ...	65½	57½	58	— ½
5% Con. Pref. ...	120½	108	116½	+ 1
5% Rt. Charge (1950) ...	110½	106	105	—
5% Cons. Guar. ...	137½	123½	131½	—
5% Cons. Guar. ...	135½	121½	128½	—
4% Deb. ...	118	107½	115	—
4½% Deb. ...	119	109½	115½	—
4½% Deb. ...	124½	116	121½	—
5% Deb. ...	138	127	133½	—
2½% Deb. ...	77	72½	74½	—
L.M.S.R.				
Ord. ...	34½	28	30	— ½
4% Pref. (1923) ...	66½	58	59½	—
4% Pref. ...	80½	73	76½	—
5% Red. Pref. (1955) ...	105½	102	103½	—
4% Guar. ...	107	98½	102½	—
4% Deb. ...	109½	103½	106½	—
5% Red. Deb. (1952) ...	111½	108	108½	—
L.N.E.R.				
5% Pref. Ord. ...	12½	7½	8½	— ½
Def. Ord. ...	54	34	4	— ½
4% First Pref. ...	66½	57½	59½	—
4% Second Pref. ...	36½	30½	31	—
5% Red. Pref. (1955) ...	99½	93	98½	—
4% First Guar. ...	102½	94	100½	—
4% Second Guar. ...	93½	85½	91½	—
3% Deb. ...	86½	78½	83½	—
4% Deb. ...	109½	101½	106	—
5% Red. Deb. (1947) ...	106½	102	102½	—
4½% Sinking Fund	108	103½	105½	—
Red. Deb. ...	108	103½	105½	—
SOUTHERN				
Pref. Ord. ...	80	72½	75½	+ ½
Def. Ord. ...	26½	20½	24½	— ½
5% Pref. ...	119½	106½	115½	—
5% Red. Pref. (1964) ...	114	108½	113½	—
5% Guar. Pref. ...	136	122	128½	+ 1
5% Red. Guar. Pref. (1957) ...	117	109½	113½	—
4% Deb. ...	117½	106	114	— ½
5% Deb. ...	137	126	133	—
4% Red. Deb. (1962-67) ...	112	106½	109½	—
4% Red. Deb. (1970-80) ...	112	107	109½	—
FORTH BRIDGE				
4% Deb. ...	109	104½	104	—
4% Guar. ...	105	102½	102½	—
L.P.T.B.				
4½% "A" ...	125½	114	120½	—
5% "A" ...	133½	123	130½	—
3% Guar. (1967-72) ...	100½	97	99	—
5% "B" ...	124	114	121½	—
"C" ...	72	53	68	—
MERSEY				
Ord. ...	34½	27	34	—
3% Perp. Pref. ...	68	59½	69	—
4% Perp. Deb. ...	104	102½	103	—
3% Perp. Deb. ...	83	78½	79	—
IRELAND*				
BELFAST & C.D.				
Ord. ...	9	6	9	— 1
G. NORTHERN				
Ord. ...	24½	16	29½	+ 2½
Pref. ...	—	—	45	+ 4
Guar. ...	—	—	65	+ 4
Deb. ...	—	—	85	—
G. SOUTHERN				
Ord. ...	30	9½	57	+ ½
Pref. ...	30	11	56½	+ ½
Guar. ...	64	26½	74	+ 4
Deb. ...	88½	51½	95½	+ 4

OFFICIAL NOTICES

Overseas Employment

ASSISTANT ACCOUNTANT required by the Nigerian Government Railway for one tour of 12 to 24 months with possible permanency. Commencing salary in the scale £400-£25-£600-£90-£720 a year according to qualifications and experience. On salary of £400 there is a local allowance of £42 and for married men a separation allowance between £84 and £204 according to number of children. Free passages and quarters. Candidates should have had suitable accounting experience or alternatively be Members of one of the appropriate professional bodies.

Application in writing (no interviews) stating date of birth, full details of qualifications and experience, including present employment; also Identity and National Service or other registration particulars, and quoting Order No. O. 51775, should be addressed to the Ministry of Labour and National Service, Appointments Department, Sardinia Street, Kingsway, London, W.C.2.

OVERSEAS AGENCIES required by established firm of Engineers manufacturing Railway Transport Equipment, well known on the British Railways. Box 1910, c/o The Railway Gazette, 33, Tothill Street, London, S.W.1.

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OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

each pocket diary, and 1d. for each pad diary, to conform to Government orders. Inquiries should be addressed to the Publicity Department, the Associated Equipment Co. Ltd., Southall, Middlesex.

Bengal Nagpur Railway Liquidators.—The liquidators appointed for the purposes of the voluntary winding-up of the Bengal-Nagpur Railway Co. Ltd. are Sir George Cochrane Godfrey, and Sir Louis Kershaw, K.C.S.I., C.I.E. Their remuneration has been fixed at £1,500 each.

Beira Railway Receipts.—For the month of August, 1944, the approximate gross receipts of the Beira Railway Co. Ltd. were £85,805 and for the eleven months ended August 31, 1944, were £899,876, as compared with £69,625 and £752,911 for the corresponding periods in the previous year. The number of miles open was 204.

The Lord Mayor and "City of London" Locomotive.—At Euston station on Tuesday last, Lord Royden, Chairman of the London Midland & Scottish Railway Company, handed to the Lord Mayor of London, Sir Frank Newton-Smith, a framed photograph of L.M.S.R. No. 6245, which bears the name *City of London*. The Lord Mayor was accompanied by his daughter, the Lady Mayoress. The party inspected the locomotive and the Lord Mayor drove it the length of the platform.

Institute of Transport Discussion Group.—The Glasgow Discussion Group of the Scottish Section of the Institute of Transport re-opened for the 1944-45 session on September 29. Mr. C. S. McLeod, M.Inst.T., of 50, George Square, Glasgow, C.2, looks after the secretarial arrangements of the group. The opening of the winter session of the Surrey Area Discussion Group has been deferred, and the first meeting is to be held on January 4, 1945. The group holds its meetings at Reigate, and the Honorary Secretary is Mr. E. C. Hill, Ronda, Evesham Road North, Reigate, Surrey.

Divisions of the Institution of Civil Engineers.—The council of the Institution of Civil Engineers has approved the formation of a fifth division, to be known as the Works Construction Division, under the Chairmanship of Lt.-Colonel C. M. Norrie. Its objects are the promotion of the science and art of engineering in relation to the ways and means of carrying out engineering construction on the site: for example, the use of machinery and plant, the design and maintenance of temporary works, the organisation of engineering labour, foremen and inspectors, and the use and inspection of materials. All corporate members (at home and overseas) who wish to apply for registration as members of the division

should inform the Secretary by postcard, giving name (in block letters) and address, and stating whether member or associate member. The fourth division, approved also during 1944, was the Maritime Engineering Division, dealing with harbours and docks, together with works of coastal protection and the like, under the Chairmanship of Mr. Asa Binns. The previous three divisions, formed in that order, were the Road Engineering, Railway Engineering, and Structural & Building Engineering Divisions.

British Standards Institution.—Speaking at the Annual General Meeting of the British Standards Institution, held on October 17, Sir Percy Ashley, newly-elected Vice-President, and retiring Chairman of the General Council, said that industrial standards were likely to be increasingly desirable. He thought the British industry would prefer such an organisation as had been built up during 40 years in the British Standards Institution to any form of Government standards bureau. Although it might be necessary in some cases for the Government to enforce the observance of standards, yet, broadly, progress would be most widespread and continuous if the policy of "standardisation by consent" were pursued consistently, and if, whatever changes in organisation and methods might be made from time to time, the principles on which the Institution had been built up and developed so successfully were steadily maintained. (The names of officers of the Institution elected at the meeting are given on page 407).

Institute of Transport Silver Jubilee Scholarship.—The council of the Institute of Transport invites applications from members of the Institute for the award in 1945 of the Silver Jubilee Scholarship, of value not exceeding £150, tenable for one year. The purpose is to assist in meeting expenses to be incurred in (i) travel for the purpose of studying transport, or (ii) specific projects of transport research, or (iii) full-time education at a university or other educational institution approved by the council. Candidates will be required to indicate their subjects, the reasons for their choices, and how they would propose to utilise the scholarship. Preference, it is stated, is likely to be given to one who has passed the associate membership examination, and who is not over 30 years of age. Applications must be made on a form to be obtained from the Secretary of the Institute, 15, Savoy Street, London, W.C.2, with whom it must be deposited not later than April 30. Each application must be supported by a member (M.Inst.T.) of the Institute who, by personal contact, has had the opportunity to form an opinion of the suitability of the applicant.

Contracts and Tenders

An order for 1,500 all-steel box wagons, of 50 tons capacity each, has been placed by the Canadian National Railways with the National Steel Car Corporation Limited, Hamilton, Ontario, for delivery in 1945.

Below is a list of the orders placed recently by the Egyptian State Railways:—

Docker Brothers: Enamel.
National Gas & Oil Engine Co. Ltd.: Spares for diesel engine.
H. J. Skelton & Co. Ltd.: Channels and plates.
Automatic Telephone & Electric Co. Ltd.: Benders, pliers, etc.
I. H. Willcox & Co. Ltd.: Tube cleaners for power house.
Chloride Electrical Storage Co. Ltd.: Plates and separators.
Drysdale & Co. Ltd.: Steel spindle.
Metropolitan-Vickers Electrical Co. Ltd.: Power house spares.
P. & W. MacLellan Limited: Mild steel.
Telegraph Condenser Co. Ltd.: Condensers.
Brown Bayley's Steel Works Limited: Die steel.
British Drug Houses Limited: Chemicals for laboratory.
Thomas Firth & John Brown Limited: Saws.

Forthcoming Meetings

October 27 (Fri.).—Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1, 5.30 p.m. Informal meeting. Paper: "The influence of engineering on social advancement," by Mr. Edward Reeve.

November 2 (Thu.).—Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2, 5.30 p.m. Ordinary meeting. Paper: "Electrostatic precipitation of dust from boiler-plant flue-gases," by Mr. J. Bruce.

November 3 (Fri.).—Institute of Transport, in the Grand Hall, Connaught Rooms, Great Queen Street, W.C.2, 12.45 for 1.15 p.m. Silver jubilee luncheon. (Members should apply for tickets not later than October 30).

November 3 (Fri.).—Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1, 5.30 p.m. Extra general meeting: Applied Mechanics Group. Paper: "Stresses by analysis and experiment," by Professor A. J. Sutton Pippard.

November 7 (Tue.).—Institution of Civil Engineers, Great George Street, Westminster, S.W.1, 5.30 p.m. Presidential address by Mr. F. E. Wentworth-Shields.

Railway Stock Market

Stock markets have been dull and inactive with prices in most sections inclined to ease because of the small demand in evidence. British Funds, however, continued firm and maintained an upward tendency, but elsewhere, Brazilian bonds were marked down sharply on the cessation of sinking fund purchases. Home rails were slightly lower on balance; due to inactive markets, best prices have not been held. Argentine rails eased after the report that the Argentine Government has demanded an immediate decision on the wages dispute, although hopes of a compromise solution apparently persist. Elsewhere, the main feature was a rise in French railway sterling bonds on the recognition of the de Gaulle Government.

The indication of enterprise and foresight provided by the airlines' proposals continued to be the main factor governing home rails. Prices have eased because of inactive stock markets, but the prevailing view is that, having regard to the substantial yields still ruling, home rails would seem to have good scope for further improvement when markets become buoyant. L.N.E.R. first preference, also the guaranteed stocks, and L.M.S.R. senior and 1923 preference have participated favourably in the recent upward movement. The yields, of course, are attractive, and assuming industry is able to switch over with celerity to peace-

time production after the war, there will be every reason to expect dividends on these stocks to be earned by a favourable margin. Sentiment as to home rails has not been affected by the view that, because of the higher wages and other costs, total net revenue of the railways for the current year may be below the high level of 1943. This would mean a smaller return to the Government from the control agreement, but would not affect the fixed rental received by the companies. The question of higher cost of wages and materials is naturally one which will have an important bearing on the outlook, and one which will have to be met whatever the final decision on post-war organisation and control. Similar factors will have to be solved after the war by industry generally. Taking a long view, the airlines on the basis proposed might very well add considerably to the earning power of the railways, but in any case, even if the proposals were adopted in full, some time would probably have to elapse before earnings from air transport could have any material influence on dividends on the junior stocks.

Compared with a week ago, Great Western ordinary has eased slightly from 58½ to 58; the 5 per cent. preference was maintained at 116½. L.M.S.R. was 29½, compared with 30½ a week ago; the first preference has strengthened further from

76 to 76½, although the 1923 preference was fractionally lower at 59. L.M.S.R. guaranteed further improved to 102½. L.N.E.R. preferred and deferred moved back to 8½ and 4½ respectively; the first preference at 59 was half-a-point down, and the second preference 31½, compared with 31½. L.N.E.R. first guaranteed remained at par, and the second guaranteed further improved from 90½ to 91. Southern preferred, 75½ a week ago, eased to 75, and the deferred was 24½, compared with 25½; the 5 per cent. preference held its improvement to 115½. London Transport "C" was maintained at 68½.

Argentine rails were not much affected by the wages dispute, and gains were shown in balance not only by debentures but also by a number of preference and ordinary stocks. B.A. Gt. Southern ordinary was 12½, compared with 11½ a week ago. Earlier this week sentiment had tended to benefit from hopes of improved relations between the Argentine and the U.S.A. Among French rails, Midi moved up to 73½ and Nord to 86. In other directions, San Paulo ordinary was again better at 51½ and Leopoldina 4 per cent. debentures improved to 51½. United of Havana debentures at 30½ were unaffected by news of the Cuba cyclone damage. Elsewhere, Canadian Pacific reacted from 15½ to 14½.

Traffic Table and Stock Prices of Overseas and Foreign Railways

Railways	Miles open	Week ending	Traffic for week		No. of Weeks	Aggregate traffic to date			Shares or stock	Prices					
			Total this year	Inc. or dec. compared with 1942/3		Totals		Increase or decrease		Highest 1943	Lowest 1943	October 24, 1944	Yield % (See Notes)		
						1943/4	1942/3								
South & Central America															
Antofagasta (Chili) & Bolivia	834	15.10.44	26,370	—	2,200	41	£ 1,191,830	£ 1,179,280	+	£ 12,550	Ord. Stk.	15½	10	10	Nil
Argentine North Eastern ...	753	14.10.44	16,836	+	2,130	15	254,862	218,916	+	35,946	"	7½	5	4½	Nil
Bolivar ...	174	Sept., 1944	5,238	—	518	39	47,755	47,669	—	86	6 p.c. Deb.	22½	18	15½	Nil
Brazil ...	—	—	—	—	—	—	—	—	—	—	Bonds	23½	19	18½	Nil
Buenos Ayres & Pacific ...	2,807	14.10.44	121,800	+	15,300	15	1,718,160	1,368,300	+	349,860	Ord. Stk.	8½	5½	5½	Nil
Buenos Ayres Great Southern	5,080	14.10.44	168,000	+	2,340	15	2,456,700	2,258,700	+	198,000	Ord. Stk.	17½	9½	12	Nil
Buenos Ayres Western ...	1,924	14.10.44	62,940	+	3,300	15	946,860	768,600	+	178,260	"	16	9½	10	Nil
Central Argentine ...	3,700	14.10.44	160,071	+	15,801	15	2,585,868	2,046,573	+	539,295	"	10½	6½	8½	Nil
Do. ...	—	—	—	—	—	—	—	—	—	—	Dfd.	4½	3	4	Nil
Cent. Uruguay of M. Video	972	14.10.44	26,540	—	5,385	15	454,875	479,182	—	24,307	Ord. Stk.	7½	4½	4½	Nil
Costa Rica ...	262	Aug., 1944	24,993	—	663	9	53,315	48,907	+	4,408	Stk.	16	12½	16	Nil
Dorada ...	70	Sept., 1944	29,850	+	5,190	39	237,415	196,807	+	40,608	1 Mt. Deb.	96	92	100½	£5 19/5
Entre Rios ...	808	14.10.44	24,120	+	4,122	15	342,414	310,128	+	32,286	Ord. Stk.	9	5½	5	Nil
Great Western of Brazil ...	1,030	14.10.44	22,000	—	100	41	860,700	654,300	+	214,400	Ord. Sh.	59/9	24/4½	30/-	Nil
International of Cl. Amer. ...	794	Aug., 1944	\$528,904	—	\$11,492	35	\$5,306,660	\$5,025,556	+	\$281,104	—	—	—	—	Nil
Interoceanic of Mexico ...	—	Sept., 1944	7,036	—	999	39	71,331	76,460	—	5,129	1st Pref.	2½	1½	1	Nil
La Guaira & Caracas ...	22½	14.10.44	47,506	+	8,957	41	1,931,508	1,418,680	+	512,828	5 p.c. Deb.	90	80	79	4½
Leopoldina ...	1,918	14.10.44	49,400	+	128,600	15	7,237,300	6,145,800	+	1,091,500	Ord. Stk.	7½	4	5½	Nil
Mexican ...	483	14.10.44	ps. 499,400	+	ps. 128,600	15	ps. 7,237,300	ps. 6,145,800	+	ps. 1,091,500	Ord. Stk.	1½	½	½	Nil
Midland Uruguay ...	319	Aug., 1944	16,470	+	1,810	9	34,921	31,115	+	3,806	—	—	—	—	Nil
Nitrate ...	382	15.10.44	5,441	—	1,248	41	141,342	121,639	+	19,703	Ord. Sh.	83/9	71/3	70/-	£3 11/5
Paraguay Central ...	274	13.10.44	650,464	—	67,046	15	687,510	684,230	+	28,796	Pr. Li. Stk.	75	51½	72	8½
Peruvian Corporation ...	1,059	Sept., 1944	129,927	+	22,660	13	375,652	314,208	+	61,444	Pref.	17½	10½	10½	Nil
Salvador ...	100	July, 1944	c 88,000	—	c 20,000	4	c 88,000	c 108,000	—	c 20,000	—	—	—	—	Nil
San Paulo ...	153½	—	—	—	—	—	—	—	—	—	Ord. Stk.	71	57	51½	£3 17/8
Tatlat ...	156	Sept., 1944	2,705	—	4,470	13	8,240	16,905	—	8,665	Ord. Sh.	37/6	20/-	15/-	Nil
United of Havana ...	1,301	14.10.44	41,203	—	4,809	15	736,722	754,654	—	17,932	Ord. Stk.	—	3½	3	Nil
Uruguay Northern ...	73	Aug., 1944	1,320	—	120	9	2,806	2,827	—	21	—	—	—	—	Nil
Canada															
Canadian Pacific ...	17,018	14.10.44	1,227,800	+	57,800	41	50,017,400	45,604,000	+	4,413,400	Ord. Stk.	18	13½	14½	6½
India															
Barsi Light ...	202	Sept., 1944	20,820	+	3,322	26	140,130	127,485	+	12,645	Ord. Stk.	—	—	118½	£3 15/11
Bengal-Nagpur ...	3,267	Aug., 1944	1,202,400	+	284,550	22	5,184,150	5,153,250	+	30,900	Ord. Stk.	104½	101½	—	—
Madras & Southern Mahratta	2,939	Mar., 1944	358,125	—	7,925	52	10,447,866	8,913,924	+	1,533,924	—	—	—	—	—
South Indian ...	2,349	20.12.43	199,410	+	24,449	37	5,321,558	4,562,445	+	750,113	—	—	—	—	—
Various															
Egyptian Delta ...	607	10.9.44	16,200	+	3,011	23	293,300	229,115	+	64,185	Pr. Sh.	6½	2½	4½	Nil
Manila ...	—	—	—	—	—	—	—	—	—	—	B. Deb.	45	32	61½	Nil
Midland of W. Australia ...	277	Aug., 1944	20,875	—	15,324	9	40,053	70,424	—	30,371	Inc. Deb.	101	93	99½	£40/5
Nigerian ...	1,900	29.7.44	281,567	—	17,671	4	—	—	—	—	—	—	—	—	—
South Africa ...	13,291	9.9.44	875,655	—	15,623	23	20,165,789	19,113,277	+	1,052,512	—	—	—	—	—
Victoria ...	4,774	April, 1944	1,188,999	—	212,162	—	—	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current price and are within a fraction of ½. Argentine traffic is given in sterling calculated @ 16½ pesos to the £.
† Receipts are calculated @ 1s. 6d. to the rupee